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PNEUMONIC FEVER—ITS SYMPTOMATOLOGY.

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DIGESTIVE SYSTEM.

During the chill or rigor there may be chattering of the teeth, and this usually augurs a severe attack. In one of my cases incessant and prolonged chattering occurred without the presence of a chill or general rigor, but this is rare.

A man, aged 65, was awakened at midnight with uncontrollable chattering of the teeth. I saw him within an hour and found him in a great state of nervous excitement and alarm. His subjective symptoms were a feeling of uneasiness and an indefinite dread of impending evil. The skin was pale, pinched and cool; pulse 96, respirations 20, and temperature 99 degrees. He was restless, tossed about in bed, passed his urine frequently, and his teeth chattered incessantly and uncontrollably. This latter continued for more than two hours, subsiding gradually. Although the skin was cool, yet there was neither chilliness nor rigors. The ordinary symptoms of severe pneumonic fever were developed and the patient died on the eighth day.

Grinding of the teeth is not infrequent in children, and is sometimes met with in adults. It usually indicates a cerebral complication and is of evil import. When present in children, together with brightness of the eyes, contraction or dilatation of the pupils, startings in sleep, etc., convulsions may be feared.

Extraordinary sensitiveness of the teeth was present in one of my cases.

A lady, aged 37, of nervous temperament, suffered an attack of pneumonic fever, locally affecting the base of the left lung. During the first twenty-four hours she had excessive vomiting, followed by intense headache and low delirium. Convalescence began on the eighth day. During convalescence and for some time afterward the teeth were so sensitive that she could scarcely bear them in contact and was compelled to subsist solely upon liquid foods.

Patients suffering with pneumonic fever, in common with other severe acute diseases, are seldom troubled with toothache, and its appearance may be viewed as an indication that convalescence is approaching.

The teeth—especially the upper ones—are usually covered with a soft, grayish deposit, although in the very mildest cases they may remain clean. In the cases of greatest severity—those accompanied by low, adynamic or typhoid symptoms—the teeth always, and often the gums[1] and lips also, are covered with dark-colored sordes. The extent, amount and color of this deposit is a pretty accurate gauge of the gravity of the case. Its disappearance is an unfailing harbinger of improvement.

Bowling[2] has called attention to the occurrence, in some cases, of a peculiar deposition on the teeth, just along the margins of the gums, of matters of various shades of color, ranging from a light orange to a dull vermilion, the tint being always deepest near the gums and shading off as the distance is increased. The line of deposit is about one-sixteenth of an inch in width and can usually be removed, although a permanent stain sometimes results. Bowling considers it an exudation from the gums and not a deposit from the expectoration or the ordinary secretions of the mouth, and that it differs from ordinary sordes. He noted this peculiar line in about one-third of his cases.

Although I have diligently searched for this line in a large number of cases, yet I have been able to recognize nothing answering the above description, except in a few cases, and in these I could not eliminate from my mind the belief that it was merely ordinary sordes, colored by blood from the expectoration, or from bleeding gums.

This line must not be confounded with the discoloration of the gingival margins due to the presence in the system of the compounds of lead,[3] mercury, iodin, etc., nor with the line in the same locality found in some cases of phthisis.[4]

The tongue is usually protruded in a natural manner, unless there is great prostration, cerebral excitement or coma; under which circumstances it will be extended with difficulty, excitedly, tremblingly,[5] hesitatingly, slowly or not at all. In some low and dangerous cases it may be retracted or laterally contracted, giving it a short and blunted, or a narrow and pointed appearance.

During the progress of the disease and in different patients the tongue may present almost every imaginable appearance, ranging from the normal to one covered with a foul mucus coating or a most luxuriant fur; or denuded of epithelium, deeply fissured and as dry as a board. It may remain clean and moist—not to be distinguished from its healthy condition—not only in a few mild cases, but also in rare cases of the utmost severity, and I have even seen patients perish with such tongues.

When I first witnessed such cases I was greatly surprised, but I soon discovered that others had noticed the same fact, Louis,[5] long ago, found the tongue normal in sixteen of thirty-five fatal, and in nineteen of fifty-six non-fatal cases. I am not aware, however, that any other observer has noticed this condition in so large a proportion of cases,—I certainly have not.

In general a natural appearance of this organ, or, having departed more or less from this state, a return to such a condition, is a favorable indication.

During the early days of the attack, and in some of the milder cases throughout its entire course, the tongue is lightly coated[6] with a cream or yellowish colored mucus secretion, borne upon a more or less luxuriant fur. In the milder cases this continues to the beginning of convalescence, when the coating gradually disappears, leaving the tongue clean and of a normal appearance. In the severe cases this coating takes on a dark color and becomes dry, hard and fissured.[7] This is especially the case in those persons who breathe through the mouth. If this condition is developed it always denotes danger,[8] and if there is no accompanying thirst it is often a fatal indication. In those successful cases in which the coating becomes dry and hard the tongue sheds its epithelium and presents a scalded appearance. In this state it is very sensitive and quickly becomes

dry and glazed when exposed to the air, but is easily moistened by keeping the mouth closed or by taking a drink of water. Although a dry state of the tongue always indicates a grave case,[9] yet we should not base our prognosis exclusively upon this fact. I have seen pneumonic patients recover whose tongues were so dry, hard and fissured as to almost prevent articulation.

Returning humidity and softness, when the tongue has been dry and hard, or disappearance of the fur and coating when these have been present, are reassuring signs. A return to a natural appearance is first seen along the margins of the tongue, gradually extending towards the center. Sometimes this change occurs in irregularly distributed patches, giving the organ a very peculiar appearance. As a rule, to which there are exceptions, as before indicated, a favorable opinion as to the issue of the attack may be entertained so long as the tongue and mouth remain moist.

The coating and fur upon the surface of the tongue are liable to be discolored by the expectoration, ingesta and vomited matters. In one of my cases the tongue presented a remarkably fine olive green coating.

In many cases the tongue is broad and flabby and shows the markings of the teeth.[10] In these cases the color is apt to be gray, leaden or bluish. In other cases the tongue presents a strawberry-and-cream appearance which is very striking. Sometimes an albuminous exudation appears in patches upon the surface of the tongue. The tissues beneath the patches are inflamed and often ulcerate. This is usually an unfavorable, though not necessarily fatal sign.[11] Ulceration under the tongue[12] has been noticed by Baginsky.[13] I have not seen ulceration of the lingual frenum in any case uncomplicated by pertussis. Herpes of the tongue[14] was present in three of my cases.

In one of my cases the lingual herpes was unilateral, a group of five vesicles being arranged upon the right side. There were also herpetic vesicles at the angle of the mouth on the same side.

The temperature of the tongue is somewhat increased in the early part of the attack. It is lowered in cases attended with pronounced cyanosis or as a fatal termination is approached.

Although the condition of the tongue[15] is a very important consideration, it can never teach us so much as the ancients believed. Thus Hippocrates[16] claimed to be able to locate the disease by the coating upon the tongue. Stoll[17] thought himself able to distinguish the pains of pneumonic fever from those of rheumatism[18] by the moisture of the tongue.

During the height of the fever the secretion of saliva is diminished and in rare cases almost suppressed. A free secretion of saliva assists in keeping the mouth and tongue clean and is a favorable symptom.

Inflammation of the parotid gland is a rare complication of pneumonic fever. When it occurs the subjects are usually young—very rarely the aged. It comes on early in the attack and pursues a very acute course, attaining its full intensity in from one to three days. It is usually unilateral and tends to early suppuration. The pus, unless afforded early egress, inclines to burrow deeply and to find vent at distant points. Often but little pus escapes on incision and gangrene and sloughing are apt to result. This is a grave and dangerous complication and indicates that the general system is laboring under a heavy load of septic infection.[19]

As showing the rarity of this complication it may be stated that Huss,[20] Fismer[21] and Juergensen[22] never met with a case. It occurred but six times in 5,738 cases treated in the Vienna General Hospital. One case is recorded in the Roosevelt Hospital Reports,[23] and Holt[24] has reported one occurring in Bellevue Hospital. Stortz[25] met with it once in 259 cases, Samter[26] once in 331 cases, and Schapira[27] once in 173 cases. I have met with a single example of this complication.

A boy, aged 7, in March, 1879, suffered an attack of *febris pneumonica sinistra*, with suppuration of the left parotid gland. The patient was of delicate build, was subject to frequent attacks of catarrhal pharyngitis, and eighteen months before had had diphtheria. The pulmonary inflammation pursued an ordinary course for a week, after which the local symptoms began to decline, while the constitutional ones continued unabated, although in a changed form. In the beginning the symptoms were marked by vigor and activity, whereas they were now of a low, dragging nature. On the eighth day a hard, painful swelling appeared in the left parotid region which rapidly increased in size, became reddened and livid, and "pointed" on the eleventh day, when it was incised at several points, giving exit to about a drachm of purulent matter. Pus continued to discharge for about ten days, after which the wounds healed. Previous to incising the abscess there was a high range of temperature, with at times chilliness, profuse perspiration, vomiting and a decided tendency to somnolency. These symptoms gradually subsided, although the patient continued weak and emaciated for several weeks.

Stomatitis, a softened state of the mucous membranes of the mouth—bleeding easily on touch—with ulceration, gangrene and sloughing may occur in rare cases, especially infantile.[28] Scurvy, with ulceration of the gums and loosening of the teeth was a feature of the Nantes epidemic in 1840.[29]

Naso-pharyngeal inflammation is not very rare. In these cases the soft palate may be relaxed and the uvula swollen and elongated; diminution or abolition of sensibility is frequent and deglutition difficult. The posterior wall of the pharynx may be seen, in some of these cases, dry, glazed, ridged and furrowed. To this dried and insensitive surface particles of the expectoration are apt to adhere, giving rise to foul odors.[30] The patient sometimes complains of stiffness of the throat, with a creaking sensation on deglutition.[31] False membrane may cover the tonsils, pharynx, larynx, esophagus, etc., in rare cases. This occurred in three of my cases.[32] Alarming, or even fatal impediment to respiration may arise from edema[33] or laryngeal spasm.[34]

In one of my cases laryngismus stridulus occurred. A child, 2 years of age, had had a cough for several days, when she awoke from sleep at 10 P.M., with a frightful fit of dyspnea, and cramping of various sets of muscles. Cyanosis was extreme; the eyes rolled outward; she became limp, and seemed as if dead. She gradually revived and no more dyspnea was observed. Examination revealed consolidation of the upper lobe of the left lung. The disease pursued a severe course, with a high range of temperature, but recovery eventually ensued.

The appetite is always impaired, and is usually lost,[35] especially in the earlier days of the attack. With the beginning of convalescence the appetite gradually returns and soon becomes quite keen.[36] During the entire course of the disease fluid food is more readily taken than solid.

Digestion is often held in abeyance, and food sometimes lies for a long time in the stomach as an undigested, sour mass, to be finally gotten rid of by vomiting or catharsis.[37]

Thirst is almost always a prominent symptom in this disease.[38] It is always considerable and may be excessive. Ziemssen[39] has known even children to imbibe more than a quart of water in the twenty-four hours, and I have known adults to exceed this quantity several fold. Cold and slightly acidulated and

aërated drinks are usually relished by the patient, although plain, cold water is the one of which he tires least readily. The thirst is caused, in a great measure, by the loss of blood serum, and is proportional to such loss. It is therefore greatest when there is profuse perspirations, diuresis, diarrhea, loss of blood or extensive hepatization. These symptoms being present without thirst the prognosis is rendered doubtful. The absence of thirst in cases accompanied by stupor or other cerebral symptoms is also an unfavorable circumstance.[41]

Nausea and vomiting are very frequent and prominent symptoms of pneumonic fever, being observable, particularly at the onset, in a majority of cases.

Vomiting was present in 60 per cent. of my cases, taken *seriatim*, and in 85 per cent. of the children. This in excess of the proportion given by Rilliet et Barthez,[41] 33 per cent.; Ziemssen,[42] 40 per cent.; and Gerhard,[43] 60 per cent.—all referring to children.[44]

It is usually one of the very earliest symptoms[45] and is limited to the first days of the attack,[46] although it may, in rare cases, continue for a long time.[47] It is aggravated or excited by overfilling the stomach with food and drinks[48] and by assuming the upright position. The vomited matters consist at first of the ordinary contents of the stomach and afterwards of bilious matters, mucus, food, drinks, etc.[49]

One of my patients vomited, at different times and in various amounts, a peculiar, dark, bluish-green mucus which jellied when water was added in excess—a quart of water to a gill or half-pint of the vomitus. The patient, a female, was the subject of chronic gastro-ectasis.

At first the vomiting may not cause much distress, but later there is distressing retching and suffering. It greatly aggravates the thoracic pain and the nausea prevents the ingestion of food. Louis[50] considers it an element of danger, but this opinion I can neither confirm nor deny.

Hematemesis may be present in rare cases[51]—once in my collection.

A boy, aged 8, was taken, Sept. 18, 1875, with chilliness, followed by fever, cough, pain in the epigastrium, expectoration of sanguineous mucus and with dullness and tubular breathing over the base of the right lung. Vomiting, first of the ingesta and afterwards of mucus and bilious matter, was a prominent symptom from the beginning. On the morning of the second day the vomited mucus was streaked with blood, and later in the day he threw up a gill or more of dark coffee-ground matter. He recovered fully but afterward developed a hemorrhagic diathesis and died, two years later, as the result of numerous severe hemorrhages.

Hiccough is an occasional and a very distressing symptom,[52] especially in those cases complicated by diaphragmitis. It is often very persistent, continuing for several days,[53] or even weeks and months[54] in rare cases. It is probably due to an irritation of the pneumogastric nerve, acting upon the spinal cord and thence reflected to the phrenic nerve.[55]

Mulreany[56] reports a very interesting series of cases of pneumonic fever with hiccough as a prominent symptom.

A robust farmer, aged 40, had pneumonic fever locally affecting the right lung. There was no cough, the pulse was almost natural and the stomach retained food pretty well. There was hiccough for twelve days, with recovery of the patient.

A thin, delicate blacksmith aged 56, had pneumonic fever, with hepatization of the base of the right lung. Pain was severe and extended to the shoulder and ear. The cough was embarrassed and hiccough preceded each expiration. He obtained only occasional and short snatches of sleep. The singultus continued for twenty-six days, terminating in recovery of the patient.

A muscular man, aged 21, had pneumonic fever, locally affecting the base of the right lung. There was a rapid pulse, hurried respiration, incessant vomiting, anxiety of mind and a constant and harassing hiccough. There was no cough, neither was there pain, even on deep inspiration, but a severe lancinating pain was elicited by intercostal pressure. The vomiting and hiccough persisted for seventeen days, but gradually ceased with improvement in the chest symptoms. Recovery ensued.

A tall and muscular man, aged 22, was taken with a rigor, followed by intense headache, sopor, vomiting, profuse perspiration, high temperature, hurried respiration, cough and a scanty rusty expectoration. On the second day the breathing was very rapid and hiccough accompanied every second or third expiration. The patient daily went from bad to worse, he could not lie in the horizontal position, hiccoughed with every expiration, obtained no sleep and died, with a clear mind, on the fifteenth day.

I have met with prolonged severe hiccough only once in my experience with this malady.

A farmer, aged 30, was taken, May 10, 1879, with a severe chill, followed by fever, cough, pain in the left side, oppressed breathing, anorexia, nausea, vomiting and expectoration of rusty sputæ. I saw him first on the third day and found the entire left lung hepatized, the skin dry and harsh, cheeks dusky, tongue heavily coated, abundant labial herpes, great thirst, severe headache, loaded urine, bilious diarrhea, the pulse 140, respirations 40 and temperature 102.5 degrees. He had ridden a distance of six miles in an open wagon and through a broiling sun and returned to his home in the same manner. Upon arriving at his residence quite exhausted an intense burning pain developed in the epigastrium, with rigidity of the abdominal parietes, great dyspnea, agonizing efforts at vomiting and a persistent and distressing hiccough. The vomiting continued two days and the pain, although constantly present, became less intense after the sixth day. The hiccough persisted, with only the scantiest intervals of rest, for ten days when it ceased quite suddenly. Two days later as he was being removed from the bed to a chair, he instantly expired. The physiognomy of the patient when the singultus was at its height was pitiable in the extreme. With each spasm the face assumed a sardonic grin; the eyes were bloodshot; the skin was bathed in perspiration; the countenance was haggard and careworn, and the expression was one of deepest anxiety and a mute and pathetic appeal for succor.

Organic disease of the stomach is met with in some cases.[57] This organ, in infrequent instances, is enormously distended,[58] and it may be ulcerated or covered, in patches, by false membrane.[59] Gangrene is a peculiarity of some epidemics.[60]

The bowels are generally somewhat costive,[61] especially in the early days of the attack.[62] If allowed to take its natural course the constipation is often relieved by a very copious evacuation after a few days, to be followed by more or less looseness of the bowels. This change occurs earlier in children than in adults. In some cases diarrhea is a prominent symptom,[63] even, it may be, from the start. A fetid diarrhea is characteristic of some epidemics.[64] The evacuations may be thin and watery, with but little color, whitish and foamy, yellowish, bilious, black and tarry, scybalous, mucus, hemorrhagic, fetid, etc.

The diarrhea may be distinctly inflammatory in character.[64a] I have met a number of cases in which the pneumonic fever was ushered in by a dysenteric diarrhea.[65]

A widow, aged 60, had had dysenteric diarrhea, cough and indefinite pains in the chest for a week, when, on April 25, 1881, she had a slight chill, followed by fever, vomiting, severe pain in the left side and extreme prostration. All the ordinary symptoms and signs of a grave, low grade pneumonic fever were developed, but the prominent feature of the case, from the beginning to the end, was the fetid, dysenteric, uncontrollable diarrhea. From day to day it varied in profuseness and character, but it was always present. During the first week the stools numbered from ten to twenty daily, and they were scybalous, bilious and somewhat dysenteric. During the second week they were more frequent, yellow, gelatinous and very fetid. During the last two days the evacuations were involuntary, unconscious

and incessant. She died on the thirteenth day, and the autopsy disclosed a gray hepatization of the entire left lung, the tissues being very soft and breaking down with the lightest touch; and ulceration of the lower portion of the ileum, cecum and ascending colon. One of the cecal ulcers had perforated the coats of the bowel, but the peritoneal surface had become adherent to a loop of the small intestine and no extravasation of the intestinal contents had occurred.

Perforation of these ulcers may incite a fatal peritonitis.

A man aged 20, contracted pneumonic fever, locally affecting the lower lobe of the right lung, from which he convalesced in the usual length of time. Rather sudden death occurred and at the autopsy, in addition to the evidence of pulmonary, pleuritic and pericardial inflammation there was found ulcerative enteritis, with perforation.[66]

Peritonitis, especially purulent, has been noticed in a considerable number of cases,[67] independent of perforation. It is a very fatal complication.

The post-mortem examination, however, does not always disclose organic alterations to account for the diarrhea, even when most obstinate.

A sailor, aged 32, who had been ill for several days, was exposed to a hailstorm at sea, which was followed by chill, fever, thoracic pains, anorexia, sleeplessness and profuse diarrhea. On admission to the hospital on the third day he was thoroughly prostrated, had a short and hacking cough, scanty muco-sanguineous expectoration, a pulse of 126, temperature of 104 degrees and respirations of 42. There was a "total absence of respiratory murmur over middle and lower lobes of right lung; tongue, dry and brown; bowels very loose, requiring the stool every thirty minutes; urine free, but very dark in color." On the following day there was great dyspnea. "Crepitant ronchus could be heard all over the ward, the patient crying out for breath and sleep." He died during the night. At the autopsy "on opening the thorax considerable straw-colored serum escaped; about 1000 c.c. serum in thoracic cavity; fibrinous pleuritic adhesions throughout the right pleura, also slightly in left pleura; right lung collapsed and bathed in yellow pus; lower lobe of left lung inflammatory; right lung color of liver tissue; heart normal and perfectly healthy; liver, spleen and pancreas normal; intestines distended with flatus, but perfectly healthy."[68]

Gaseous distension of the bowels is occasionally enormous,[69] impeding respiration and becoming an element of danger.[70]

Diarrhea coming on late in the attack, with adynamic symptoms, is of evil import,[71] and this is especially the case if the discharges are fetid or dysenteric in character, or if they are involuntarily evacuated.

In my series of cases there were fourteen in which there were involuntary or unconscious evacuations of the bowels as a prominent symptom. Of these ten died and four recovered.[72] In one of the successful cases the diarrhea was hemorrhagic.[73]

A young lady, 17 years of age, who had had an attack of pneumonic fever, five years previously, was taken February 23, with headache, alarm and muscular tremor, continuing three hours and terminating in chilliness and drowsiness, followed by fever and the ordinary symptoms of pneumonic fever with hepatization of the entire left lung—the inflammation beginning above and extending downward. For seven days the temperature ranged from 102 to 104.4 degrees, gradually declining to normal on the evening of the ninth day. The pulse, when the patient was first seen was 120, but did not again exceed 92. The respirations ranged from 24 to 32. Profuse diarrhea began on the fourth day. At first the stools were olive-colored and scybalous, but afterwards they were liquid, bilious and very offensive. On the sixth day the bowels moved only three times but the passages were unconscious. On the seventh, eighth, ninth and tenth days there was a constant, unconscious and uncontrollable passage of feces. On the ninth day there was a considerable discharge of fluid and clotted blood. On the seventh, eighth and ninth days the urine was also passed unconsciously—constantly dribbling away. The urine and feces were so acrid that the vulva, nates and upper part of the thighs were greatly irritated. The mind remained remarkably clear throughout the attack. The case was one of the greatest severity; a physician of long experience and fine abilities, on the eighth day, pronouncing death inevitable. She recovered after a tedious convalescence.

Hemorrhage from the bowels is a rare complication.[74]

During an attack of pneumonic fever intestinal worms, if any are present, are apt to be discharged, and this may be a prominent feature of some cases or epidemics.[75] Helminthiasis is most common in patients from 3 to 10 years of age, being infrequent in infants and youths and very rare in adults[76] and the aged. Lumbrici are sometimes present in immense numbers[77]—"more than 1,000" being present;[78] the intestines being literally crammed with them[79]—and large numbers of them may pass away at the same time. In one case 460 were passed in a fortnight.[80]

In March, 1880, I attended two children, brother and sister, aged respectively 5 and 7 years, who were simultaneously attacked by pneumonic fever. The fever was ardent, with marked cerebral symptoms in both. On the fourth day I was shown two matted masses of lumbrici, each larger than a large orange which had been passed by the two children respectively during the preceding night. Improvement in all the symptoms began at once and both promptly recovered.

Some of the older authors considered it a very unfavorable sign to have these worms discharged, arguing that they instinctively anticipate danger, and, like rats fleeing from a sinking ship, hasten to desert their host.[81]

Jaundice, either preceding, accompanying or following the attack, will be encountered in a certain proportion of cases.[82] This proportion will be large or small, as the observer classifies every shade of yellowness of the conjunctivæ and skin as examples, or only those which are more clearly and distinctly marked. Inasmuch as a slight tinge of jaundice may arise from hepatic congestion from any cause it is quite common in this disease[83] in which such congestion is often present.[84] Severe icteric manifestations, on the contrary, are not very frequent[85] and depend, most probably, upon duodenitis, inflammation of the bile ducts or other obstructive causes. It is a prominent feature of some epidemics.[86]

It has been thought that jaundice occurs with greater frequency in those cases in which the pulmonary lesion is located upon the right side,[87] especially when at the base, but this does not accord with my experience.

Thus in my series of cases marked icterus was noticed in twenty-eight cases—5.7 per cent. Of these the pulmonary lesion was located in the right lung in thirteen, in the left in nine and in both in six cases, which is almost the exact proportion in which the local lesion is found in all cases. It may therefore be said that jaundice occurs oftenest in connection with right-sided hepatization, because such inflammation is most common in pneumonic fever.

It might be readily supposed that the circulation in the blood—already surcharged with other excrementitious matters—of the biliary principles as is the case in severe jaundice would have a deleterious influence upon the course of the disease and the fate of the patient, and such is indeed the case.

Mosler[88] lost eleven of fifteen cases—73 per cent.—in which icterus was a marked feature, and he, with Traube[89] and others,[90] regards this as one of the most dangerous symptoms that can arise during the progress of pneumonic fever. Fismer[91] puts the mortality in these cases at 20 per cent., which is about the average in general, but is slightly above that of his own cases. On the contrary, Huss[92] lost only 8.7

per cent. of his cases, and Grisolle[93] but 15 per cent. of his twenty cases—both below their averages. My own opinion is that it is a most undesirable symptom and either makes or marks a grave case. This is based upon a loss of 36 per cent. of my cases and witnessing severe and grave manifestations in nearly all of the remainder.

Leyden[94] has called particular attention to the solvent action of the biliary acids upon the red blood corpuscles, and concludes that herein lies the true explanation of the known deleterious effects of the bile in the general circulation.[95]

Secondary inflammation,[96] abscess[97] or cirrhosis[98] of the liver are some of the rarer accompaniments and sequelæ of pneumonic fever.

Enlargement of the spleen is a marked feature of some cases,[99] localities[100] and epidemics.[101] When accompanied by softening[102] it may become an element of danger. It usually returns to its normal condition after the fever declines, although some enlargement may remain permanently.[103]

GENITO-URINARY SYSTEM.

Micturition is more or less modified, but differently in the two sexes. It is usually painful and there is a burning sensation as the urine flows along the urethra. The urine may be so irritating as to cause excoriation of the external surfaces with which it comes in contact.[104]

This is mentioned as having occurred in nine of my cases—all females—and it may have been present in a lesser degree in others. In one case the vulvar excoriation was very extensive and gave rise to much distress.

In general, micturition is infrequent, the urine being passed only once or twice in twenty-four hours, especially early in the attack, although frequent micturition is not uncommon. There is usually some hesitation and delay in starting the stream of urine and the flow is retarded. This difficulty is sometimes so great that the bladder is only relieved *guttatim*[105] or by the catheter. Patients have described the sensation as being one of increased resistance to be overcome by a diminished *vis-a-tergo*. The condition is due to excessive irritability of the sacral plexus or a diminution in the functional activity of the hypogastric plexus, or both.

A blunted intellect is also responsible for a certain proportion of these cases of dysuria.

This fact is mentioned in my notes but once. In this instance the patient, an adult male, was so dull and drowsy that unless means were taken to keep him aroused, he would, whilst passing the urine, relapse into a state of lethargy, with stoppage of the flow. There was no impediment to the flow of urine so long as he was awake.

I have been unable to find a parallel case in the medical literature at my command, although they have most probably been observed by others.

Retention may occur, [106] either from vesical paralysis or dullness of intellect, but the circumstance must be rare as it was met with but once in my series of cases.

A female child, aged 5 years was taken, Sept. 1, 1875, with the symptoms and signs of pneumonic fever, locally affecting the apex of the left lung. Vomiting and helminthiasis were prominent symptoms. From the first, the urine was passed with difficulty and on the third day there was complete retention. The catheter was used and a large quantity of urine withdrawn. Retention did not recur. There was only slight impairment of the mental faculties. Crisis occurred on the fifth day, with the extrusion of a very large number of round worms. Convalescence proceeded rapidly to complete recovery.[107]

In females, especially those of advanced age or those who have borne children, there is, not infrequently, incontinence of urine with the efforts of coughing. The symptom is one indicating more than ordinary danger. Such incontinence is seldom encountered in young girls or unmarried women, although I have given a case on a preceding page. It is very rare in male adults.[108]

The urine of pneumonic fever patients is invariably altered in constitution.

Writers have generally employed the phrase, 'the urine is usually altered in its constitution,' but as the result of a very large number of examinations, both during the progress of the disease and after recovery, I am in a position to positively assert that whilst the malady is raging the characteristics of the urine are *invariably* other than those pertaining to health.

In quantity it is usually diminished,[109] although under peculiar circumstances it may be increased, as e.g., in the Tregagno epidemic.[110] The volume of urine passed, however, depends largely upon the amount of fluids ingested, and the quantity of these diverted into other channels.

The urine may be suppressed, which is a very grave symptom, although complete suppression has continued for considerable periods with recovery. Uremia[111] often, but not invariably,[112] accompanies prolonged suppression.

The urine is usually foamy[113] and highly colored. It may be of a dark straw color, but it is oftener that of beer. Rarely it is smoky, oily, sticky, whitish, greenish or olive. It is heavily laden with excrementitious material and has a high specific gravity.[114] The amount of urea excreted is largely increased,[115] indicating an active retrograde metamorphosis of tissue[116] and a defective assimilation of the ingesta.[117] Urea continues to be excreted in large quantities up to the beginning of resolution, and very often for several days longer. The quantity of urine is generally too small to hold the urates in solution at a temperature below that of the body and they are thrown down, together with some of the uric acid,[118] as a reddish or fawn-colored precipitate upon the urine becoming cold.[119] The amount of uric acid excreted is also, sometimes greatly increased.[120]

In Zimmermann's cases the average was, during the incremental stage, 15 grains, during the decremental stage 13.5 grains and at the crisis 37.7 grains.

Poland[121] considers imperfect respiration the cause of the presence of uric acid in excess in the urine, but this is uncertain.[122]

The proportion of hippuric,[123] sulphuric[124] and phosphoric[125] acids are not perceptibly altered in this disease as evidenced by the salts excreted.

Simon[126] and Becquerel[127] long ago noticed a diminution of the chlorids in the urine in several inflammatory disorders, but to Redtenbacher[128] is due the credit of calling attention to the fact that in pneumonic fever they are entirely absent in a great majority of cases and are diminished in all,[129] even when they are largely ingested. This diminution or absence is most marked at the height of the disease, and they reappear with the cessation of the exudative process and the beginning of convalescence.[130] Inasmuch as the pneumonic exudate is peculiarly rich in the chlorid of sodium it is believed that this salt is diverted from the urine to the inflammatory exudate. So long then as the chlorids are diminished or absent in the urine we may be sure that the local lung trouble is in an actively progressive state, but when they begin to appear abundantly we may safely conclude that the inflammatory process is stationary or declining.

The quantity of chlorid of sodium excreted in the urine by a healthy adult is about one hundred and fifty-four grains in twenty-four hours.[131] It is derived from the blood and it follows that if the salt is deficient in this fluid it will be likewise diminished in the urine. Now it is found that in pneumonic fever the blood is deficient in these salts, and it is generally believed that this is attributable to the exudative process going on in the lungs.[132] Beale,[133] who studied this subject exhaustively, came to the following conclusion: 1, chlorid of sodium is totally absent from the urine of pneumonic patients at the period of complete hepatization;[134] 2, it reappears during resolution; 3, it exists in the blood in the greatest abundance when it appears most largely in the urine and *vice versa;* 4, it exists in large quantities in the pneumonic sputa; 5, there is reason to believe that it is determined toward the inflamed lung and is re-absorbed on the resolution of the process.

Chlorid of sodium appears scantily in, or is absent from the urine in other diseases besides the one under consideration, *e. g.*, bronchitis,[135] pleurisy.[136] phthisis,[137] cholera, rheumatism, typhus fever, cerebral abscess,[138] etc.

Albumen is present in the urine in a considerable number of cases[139]—especially severe and lingering ones—of pneumonic fever.[140]

Becquerel[141] found albumen present in 9 of 21 cases, 42.8 per cent.; Caton[142] in 4 of 85 cases, 5 per cent.; Finger in 15 of 33, cases, 45.4 per cent; Fox[143] in 10 of 32 cases, 31 per cent.; Griesinger[144] in 63 of 121 cases, 52 per cent.; Metzger in none of 48 cases; Parkes[145] in 6 of 13 cases, 46 per cent.; Solon[146] in 11 of 78 cases, 14 per cent., and Ziemssen[147] in 2 of 24 cases, 8.3 per cent. It occurred in about 10 per cent. of my cases.

It may appear at any time, but is oftenest noticed at the beginning of resolution, and continues several days.[148] It is an unfavorable symptom.[149] It has been a prominent feature of some epidemics, as *e. g.*, those of Tregagno[150] and Moringen.[151]

In pneumonic fever the latent albumen is sometimes not shown by the ordinary tests, but if the urine and nitric acid are boiled together and the tube be then plunged into very cold water a precipitate appears which does not re-dissolve on boiling.[152]

The albuminuria is due to an acute parenchymatous nephritis, which is a not infrequent complication.[153] As a rule the nephritic inflammation subsides with the progress of convalescence and terminates in complete recovery,[154] although chronic Bright's disease occasionally results.[155] In such cases dropsy ensues.[156] In nephritis the urine may be dark and smoky, with a deposit of casts, blood globules and other morphologic elements.

Peptonuria may be present,[157] especially in the final stages of the disease, in direct proportion to the activity of the absorption and elimination of the exudation material.[158] It has been thought that peptones in the urine denoted suppuration, and indeed it may well give rise to such suspicion when it is persistent, without any indication of resolution and general improvement. In a case of pneumonic abscess, observed by me in 1885, peptonuria was a marked symptom for several weeks. Peptonuria is not confined to pneumonic fever, but is met with in a variety of other diseases.[159]

The presence of peptones in the urine is readily discovered by Randolph's test. This test is based upon the fact that acid nitrate of mercury causes a red precipitate when added to a cold solution of iodid of potassium. If, however, peptones or the biliary salts are present the precipitate is yellow.[160] The question as to the presence of the biliary salts is readily eliminated.

The urine may contain bile pigments, especially in those cases accompanied by jaundice.[161] Elements of the blood may also be found, and in rare cases the urine may be actually hemorrhagic.[162] Poisonous alkaloidal substances—ptomaines and leucomaines—are sometimes found in abundance in the urine of pneumonic patients,[163] and such urine is highly toxic.[164]

The vesicle mucus is increased in quantity and there is a tendency in the urine to early decomposition.[165] Senger[166] "found micrococci in almost every case which he examined," but Seitz,[167] Neumann[168] and others have obtained negative results in their search.

Melaturia may be present, either as a symptom[169] or as a preceding condition.

In a certain proportion of persons, sugar, in small quantity is present in the urine for a long time without giving rise to any marked symptoms and without being in itself a dangerous condition, yet as a rule such persons will not survive an attack of pneumonic fever.[170]

Acetone may appear in the urine,[171] especially in those cases accompanied by high fever. It is more dangerous in adults than in children, but it is always of grave import. In these cases the breath exhales an acetous, fruity odor which is very characteristic.

Kreatinin in the urine is increased in amount during the acute stage,[172] but is diminished during the decline of the disease, especially if there is rapid wasting.[173]

With the beginning of the disease and until convalescence is declared, sexual desire is either impaired or abolished.[174] With recovery it returns with renewed vigor.

In one of my cases, a male, aged 24, a masturbator, after exposure to cold during convalescence, had epididymitis and nocturnal emissions. The semen stained the linen a light, but distinct, blue.[175]

The cremasters and scrotum are relaxed[176] and the penis flaccid. Edema of the genitals may be present.[177]

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1 Peebles—Am. Jour. Med. Sci., May, 1848—found the gums spongy.
2 Am. Jour. Med. Sci., July, 1852.
3 After death the blue line of lead is turned yellow by chromic acid, and the yellow to black by hydric-sulphid. See Pepper, London Lancet, 1887, Vol. ii, p. 904.
4 Thompson, London Lancet, N. Y., 1852, Vol. i, p. 95.
4a See also Pause, Lungenentzündung, s. 69;—Piorry, mem. sur le diag., Paris, 1831;—et al.
5 Quoted by Chomel, Pneumonie, Leipzig, 1841, s. 39.
6 Occasionally the coating is very thick.
7 See Ehrhard, Preisschr., Regensb., 1848;—Heiss, Inaug. Diss., München, 1857;—Hoefle, Chem. u. Mikroskop., Erlangen, 1848;—Lepecq de la Cloture, Observ. mal. epidem., Paris, 1776;—Lépine, Pneumonie, Wien., 1883;—Miquel, Prager Vierteljahrschr., 1850;—et al.
8 Dickenson, N. Y. Med. Rec., April 21, 1888, p. 442;—Henning, Ibid., Oct. 15, 1879; Todd, Med. Times and Gazette, May 15, 1852;—et al.
9 See Cœlius Aurelianus, Acut. Morb., Lib. ii, cap, xxv, et cap. xxix; —et al.
10 I have met this appearance in many cases. See also Gibbs, Cincinnati Lancet and Observer, April, 1861, p. 211;—Osborn, Braithwaite's Retrospect, June, 1852, p. 31;—et al.
11 See Louis, On Phthisis, Boston, 1843, p. 301.
12 Frenum.
13 Pneumonie u. Pleuritis, Würzb., 1880, s. 131.
14 Scheef, Inaug. Diss., Tüb., 1882. s. 38, has seen herpes on the gums, and Fox, Reynolds' Syst. Med., Phila., 1880, Vol. ii, p. 175, on the tonsils.
15 See Louis, op. cit., p. 298, et Fiev Typhoïde, T. ii, p. 64;—Piorry, Du Diagnos.;—Stokes, Lectures, 1832-33;—et al.
16 Works, by Adams, Vol. i, p. 195.
17 Rat. Med., 1792.
18 As a matter of fact I have recently had under my care a gentleman suffering with rheumatism who was always able to foretell exacerbations of pain by their patients becoming dry, and their departure by returning moisture in the organ.
19 For further information see Bêhier, Clin. Méd.;—Buttermann, Inaug. Diss., Griefsw., 1882, s. 28;—Fox, op. cit.;—Green, Quain's Dic. Med., N. Y., 1883, p. 880;—Kostlintz, Inaug. Dissert., Halle, 1882, s. 34;—Lépine, Pneumonie, Wien., 1883, s. 145;—et al.
20 Lungenentzündung, Leipzig, 1861.
21 Deutsches Arch. f. K. Med., 1873, s. 391.
22 Ziemssen's Handb. d. Spec. Path. u. Therap., Bd. v, Leipzig, 1877, s. 141.
23 Twelfth Report, p. 26.
24 N. Y. Med. Gaz., Oct. 15, 1881, p. 351.
25 Inaug. Dissert., 1884, s. 66.
26 Inaug. Dissert., Breslau, 1881, s. 52.
27 Inaug. Dissert., s. 38
28 See Gerhard, Am. Jour. Med. Sci., Vol. xiv, p. 328, and Diseases of the Chest, Phila., 1860, p. 200;—Holt, N. Y. Med. Rec., Jan. 3, 1885, p. 21;—Peacock, St. Thomas' Hospt. Rpts., Vol. v;—Struver, Phila. Med. News, April 29, 1882, p. 455;—Sturges, Pneumonie, London, 1876, p. 322;—et al.
29 Laveran, Gaz. Hebdom., 1865, No. 35.
30 See Wells, St. Louis Med. and Surg. Jour., January, 1878.
31 Juarez, Volkmann's k. Vortrage, Nr. 195, s. 22;—Wells, Cincin. Lancet and Clinic, July, 1879;—Wunderlich. Spec. Path. u. Therap., Bd. ii, s. 363.
32 See also Baronius, De Pleuropneumonia, Lib. ii, Farolivii, 1638;—Chomel, Pneumonie, Leipzig, 1841, s. 245;—Doubleday, N. Y. Med. Rec., March 28, 1885, p. 343;—Walshe, Dis. Lungs, Phila, 1860.
33 Walshe, op. cit.

[34] Baginsky, Pneumonie u. Pleuritis, Würzb., 1880, s. 110.
[35] Aretæus, Acut. Morb., Lib. ii, cap. i;—Lépine, op. cit., s. 80.
[36] See Ray, Ohio Med. Recorder, April, 1881, p. 498.
[37] Brunton, Pharmacology, Phila., 1885, p. 654, has seen food lie in the stomach four days, to be then vomited.
[38] Cleghorn, Epidem. Dis. Minorica, London, 1762, p. 261; Thucydides, Opera.;—et al.
[39] Pleuritis u. Pneumonie, Berlin, 1862, p. 231.
[40] Copland, Med. Dic., N. Y., 1885, Vol. iii, p. 1081.
[41] Mal. des. Enfants.
[42] Op. cit., p. 230.
[43] Amer. Jour. Med. Sci., Vol. xiv, p. 328.
[44] See also Lépine, Pneumonie, Wien., 1883, s. 78.
[45] See also Hermann, Lungenentzündung, Würzb.,'1880, s. 33;—Stortz, Inaug. Dissert., Würzb., 1884, s. 57; Koetnultz, Op. cit., s. 7;—Schapira, Inaug. Dissert., Würzb., 1877, s. 30.
[46] See Fox, op. cit., p. 172; Swett, Dis. Chest., N. Y., 1856, p. 105.
[47] See Mulreaney, London Lancet, N. Y., 1854, Vol. i, p. 429;—et al.
[48] Especially indigestible food, warm teas, slops, stale lemonade, etc.
[49] Hare, London Lancet, 1889, Vol. ii, p. 216, records a case of stercoraceous vomiting.
[50] Flev. Typhoide, T. ii, p. 465.
[51] See also Hermann, op. cit., s. 36.
[52] See U. S. Marine Hospt. Rpts., 1884, p. 190; Townsend and Coolidge, Trans. Am. Climat. Ass'n.
[53] See also Doubleday, N. Y. Med' Rec., Mar. 28, 1885, p. 343.
[54] See Weaver, London Lancet, Apr. 7, 1883.
[55] Habershon, London Lancet, N. Y., 1863, Vol. i, p. 263.
[56] London Lancet, N. Y., 1854, Vol. i, p. 430.
[57] See Andral, Dis. Chest. Phila., 1845, Vol. ii; Chomel, Fiev. Typh., p. 241; Gerhard, Dis. Chest., p. 200;—Lebert, Berliner k. Woch., Sept. 4, 1871;—Louis, Rech. sur. la gastro-enterits, T. i, p. 223;—Roosevelt Hospt. Rpts., 5th, p. 25;—Stortz, op. cit., s. 66.
[58] See Osler, Phila. Med. News, Jan. 24, 1882, p. 80; U. S. Marine Hospt. Rpts., 1886, p. 226.
[59] Bristowe, Quoted by Osler, op. cit., p. 80.
[60] See Lepecq de la Cloture, Mai. Epidem., Paris, 1776.
[61] See also Chomel, op. cit., s. 142;—Gerhard, Am. Jour. Phila. Med. Sci., Vol. xiv, p. 328;—Green, Quain's Dic. Med., N. Y., 1883, p. 877;—Juergensen, op. cit., s. 113;—Lépine, op. cit., s. 80;—Sturges, op. cit. p. 227;—Swett, op. cit. p. 89;—Ziemssen, op. cit., s. 231; et al.
[62] Schapira, Inaug. Dissert., s. 31, and Stortz, op. cit., s. 60, found the bowels regular in the largest number of cases.
[63] See also Caton, London Lancet, 1884, Vol. ii, p. 137 —Gerhard, Am. Jour. Med. Sci., Vol. xiv, p. 328;—Grisolle, Traité de la Pneumonie, Paris, 1864;—Hermann, op. cit., s. 33;—Hoult, N. Y., Med. Rec., Feb. 14, 1885, p. 174; Louis, Fiev. Typhoide.—Peacock, St. Thomas Hospt. Rpts., Vol. v.;—Wiltshire, N. Y. Med. Jour., Sept. 21, 1889, p. 328;—et al.
[64] See Athenian Plague, Thucydides;—Minorica epidemic, Cleghorn, op. cit.;—Moringen epidemic, Kühn, Arch. f. k. Med., Bd. xxi;—Rouen epidemic, Lepecq de la Cloture, op. cit.
[64 a] See Dillon, London Lancet, 1884, Vol. p. 27.
[65] See also Bristowe, Path. Trans., Vol. viii, p. 66; Doubleday, N. Y. Med. Rec., Mar. 28, 1885, p. 34;—Eberie, Prac. Med., Phila., 1861, Vol. i, p. 284; Fox, op. cit., p. 180; Huss, op. cit.;—Twining, Diseases of Bengal, Calcutta, 1835, Vol. i, p. 64;—et. al.
[66] U. S. Marine Hospt. Serv. Rpts., 1886, p. 170. Another similar case is recorded on p. 252. See also 1889, p. 298.
[67] See Andral, Med. Clinic, Phila., 1843, Vol. ii, p. 161;—Chomel, op. cit., s. 224;—Huss, op. cit., s. 14;—Northup, N. Y. Med. Rec., June 7, 1884, p. 651;—Roosevelt Hospt. Rpts., 1879 and 1880;—Virchow, Berliner klin. Wochenschr., Feb. 6, 1888, s. 114;—Waller, Inaug., Diss., Erlangen, 1877, s. 26;—et al.
[68] U. S. Marine Hospt. Rpts., 1886, p. 223.
[69] See Albutt, Practitioner, Feb., 1867, p. 109;—Lepecq de la Cloture, op. cit.;—Murphy, Cincinnati Lancet and Observer, Aug., 1863, p. 471; Ogle, London Lancet, 1867, Vol. ii, pp. 96–100;—Simson, Trans. Prov. Med. As. oc., 1844, London Med. Gaz., 1848, Vol. vii, p. 1687 Brit. Med. Jour., Aug. 2, 1873;—U. S. Marine Hospt. Rpts., 1886, p. 226;—et al.
[70] Cunning, Trans. Dublin College, Vol. v.
[71] See also Baginsky, Prax. Med., p. 35; Cullie, N. Y. Med. Jour., Jan. 19, 1889, p. 62;—Chambers, Lond. Lancet, N. Y., 1862, Vol. ii, p. 260; Eberle, op. cit. p. 289;—Hamilton, Fevers of India, Allahabad, 1888;—Hippocrates, Opera.;—Lépine, op. cit., s. 39;—Riverius, Prax. Med., Lib. i, p. 72;—Speck, Inaug. Dissert., Marb., 1870, s. 29;—et al.
[72] Successful cases are also been noted by Sturges, op. cit., p. 262; Waller, Inaug. Diss., Erlangen, 1877, s. 20;—et al.
[73] See also Fox, op. cit., p. 181;—Mays, Therap. Gaz., 1885, p. 220;—Raven, London Practitioner, Vol. xxxi, p. 35;—et al.
[74] See case by Pepper, Med. News, July 5, 1890.
[75] See Chomel, op. cit., s. 245;—Deidier, Obsv. de Méd., T. ii;—Sauvages, Nosolog. Meth., Amstelod., 1768;—et al.
[76] See case by Herbert, Lancet, 1890, Vol. i, p. 1067.
[77] See Davaine, Traité des Entozoaires, Paris, 1860.
[78] Flint, Prac. Med., Phila., 1868, p. 490.
[79] Frank, De Cur. Morb. Hom.
[80] Watson, Proc. Phys., Phila., 1845, p. 841.
[81] See Copland, Med. Dic., N. Y., 1855, Vol. iii, p. 1546.
[82] See Chauffard, Rev. de Méd., Sept., 1887;—Fox, op. cit., p. 185; Juergensen, op. cit., s. 137;—Wüller, Zeitschr. f. k. Med., Bd. xii;—N. Y. Med. Rec., Mar. 24, 1888, p. 332;—Parmentier, Gaz. des hôp., 1887,—p. 1142; Peacock, op. cit.;—Wendt, Rev. de Méd., Sept., 1887;—Stortz, Inaug. Dissert., Würzb., 1884, s. 66;—Fismer, Arch. f. k. Med., Bd. xi, s. 58;—Chvostek, Wiener Med. Jahresb., 1887, s. 87;—Schapira, op. cit., s. 36;—Grisolle, Traité de la Pneumonie, Paris, 1864;—Speck, Inaug. Dissert., Marburg, 1870, s. 28;—Dietl, D. Aderlarre in d. Lungenentzündung, Wein., 1855, s. 2;—Wunderlich, Inaug. Dissert. Tüb., 1858, s. 28;—Leyden, Path. d. Icterus, s. 133;—Nanyan, Arch. f. Anat. u. Phys., 1869, s. 579;—Scheef, Inaug. Diss., Tüb., 1882, s. 36;—Schaeffer, Inaug. Diss. Halle, 1885, s. 137;—et al.
[83] See Drasche, Canstatt's Jahresb., 1860, Bd. iii, s. 205;—Bonnet, Rev. mensuelle de med., 1878;—Brit. Med. Jour., 1868, Vol. ii, p. 377;—Moore, Brit. Méd. Jour. 1868, Vol. i, p. 10;—Mosler, Arch. f. k. Med., Bd. x;—Oppolzer, Jahresb., 1869, Bd. ii, s. 102;—Schaefer, Inaug. Diss., Halle, 1885, s. 13; Scheef, Inaug. Dis., Tüb., 1882, s. 36;—Huss, op. cit., s. 132;—Waller, op. cit., 28.
[84] Marsalonga, Lo Sperimentale, 1885;—Schultz, Jour. Am. Med. Assoc, July 31, 1886, p. 120.
[85] See Bonnet, op. cit.;—Fox, op. cit., p. 185;—Gerhard, op. cit.;—Ghovstek, Canstatt's Jahresb., 1867;—Grisolle, Traité de la Pneumonie, Paris, 1864;—Lépine, op. cit., s. 143;—Roth, Würzb. Med. Zeitschr., Bd. i, Nr. 3 u. 4; Ziemssen, op. cit., s. 229.
[86] Chomel, op. cit., s. 249;—Meyen, Inaug., Diss., 1881;—Schaefer, op. cit., s. 13;—Sturges, op. cit., p. 6;—et al.
[87] See Chomel, op. cit., s. 231; Dietl, Pneumonie, Wien, 1848, s. 50;—Fox, op. cit., p. 185;—Fränkel, Berliner k. Wocheuschr., 1884, s. 288;—Green, op. cit., p. 880;—Huss, op. cit.;—Lépine, op. cit., s. 143;—Swett, Dis. Chest., N. Y., 1856, p. 104;—et al.
[88] Op. cit., s. 265.
[89] Gesammelte Abhandlun, Bd. ii, s. 69.
[90] See Fox, op. cit., p. 185;—Green, op. cit. p. 880;—et al.
[91] Deutscher Arch. f. k. Méd., 1873, s. 391.
[92] Op. cit., s. 138.
[93] Op. cit.
[94] Path. des. Ikterus, Berlin, 1866.
[95] For further information, see Bertin, Mém. de l'Acad. de Méd., 1849;—Bettelheim, Arch. f. k. Med., Bd. xxxii;—Brit. Med. Jour., 1868, Vol. ii, p. 377;—Drasche, Canstatt's, Jahresb., 1860, Bd. iii, s. 205;—Fuster, Gaz. Méd. de Paris, 1850;—Klotz, Thesen der Paris, 1859;—Lépine, op. cit., s. 144;—Misser, Gaz. méd. de Paris, 1833-34;—Oppolzer, Schmidt's Jahresb., 1869;—Poller, Gaz. Méd. de Paris, 1834;—et al.
[96] See Gerhard, Dis. Chest., Phila., 1860, p. 200;—Juergensen, op. cit., s. 114.
[97] See Chvostek, Weiner Klinik, 1881, s. 109;—U. S. Marine Hospt. Rpts., 1887, p. 240.
[98] See Doubleday, N. Y. Med. Rec., Mar. 28, 1885, p. 343;—Roosevelt Hospt. Rpts., 1874, p. 25.
[99] See Brouardel, De la spleno-pneumonie, Paris, 1886;—Stortz, Inaug. Diss. s. 60;—Gerhard, Charité, Ann., Bd. xiii, 1888;—Schaefer, Inaug. Diss., Halle, 1885, s. 12;—Scheef, Inaug. Diss., Tüb., 1882, s. 36;—Schapira, op. cit., s. 31;—U. S. Marine Hospt. Rpts., 1887, pp. 239, 241 and 242;—Waller, Inaug. Diss., Erlangen, 1877, s. 28;—Homburger, Inaug. Dissert., Strassb., 1879, s. 67;—Juergensen, op. cit.;—Lebert, Klinik d. Brust k., Bd. i, s. 585.
[100] Especially in malarial regions. See Cantanni, N. Y. Med. Jour., July 21, 1888, p. 62.
[101] Kühn, op. cit.;—Kerchensteiner, Am. Jour. Med. Sci., Jan. 1883, p. 262;—Banti, Centralb. f. k. Med., 1880, Nr. 20.
[102] See Scheef, op. cit., s. 17;—et al.
[103] See also Gerhard, Charité Ann., Bd. xiii, 1888;—et al.
[104] See also the case recorded by Ray, Ohio Med. Recorder, April, 1881, 1881, p. 498.
[105] See also Wittich, Pneumonie, Erlangen, 1850, ii.
[106] Craigie, Bull. de Méd. de Paris, June 30, 1889. Johnson, London Lancet, 1889, Vol. i, p. 1302—records the cases of two brothers, simultaneously ill with pneumonic fever, with retention in both. See case U. S. Marine Hosp. Reports, 1890, p. 284.
[107] For other cases and further information consult Fox, Reynolds' Syst. Med., Phila., 1890, Vol. ii, p. 175;—Gross, N. Y. Med. Gaz., May 13, 1882, p. 220;—Sturgis, Nat. Hist. Pneumonia, London, 1876, p. 262;—et al.
[108] See case U. S. Marine Hospt. Rpts. 1890. p. 278.
[109] See West, London Practitioner, Feb. 1875, p. 126;—et al.
[110] Massalongo, Lo Sperimentale, Aug., 1885. See also Cleghorn, Diseases of Minorica, London, 1761;—Deutsche Med. Zeitung, 1883, Nr. 41;—Kocher, Pneumonie, Würzb., 1866, S. 2;—Waller, Inaug. Dissertations, Erlangen, 1877, s. 20;—et al.
[111] See also Doubday, N. Y. Med. Rec., March 28, 1885, p. 343;—et al.
[112] Baruch, N. Y. Med. Rec., Dec. 24, 1887, p. 189;—U. S. Marine Hosp. Rpts., 1883, p. 208;—et al.
[113] See Auenbrügger, Inventum Novum, Vien., 1761, Sec. 42.
[114] It may be seen cases in Delafield—N. Y. Med. Rec., April 12, 1884, p. 398; Raven, Practitioner, Vol. xxxi, p. 36; and others.
[115] It may even reach ? 326 grains in twenty-four hours, Fox, op. cit., p. 174—although the amount is usually from 761 to 858 grains. See Parkes, On Urine, p. 271; Weed, Med. Chir. Trans., 1874, and London Practitioner, Feb., 1875, p. 126, objects to this, he having found the total quantity to be subnormal. It is relatively and absolutely more abundant in males than in females. See Harley, Med. Times and Gaz., April 16, 1864, p. 418; —Yoon et Berlois, Bull. de méd., June 20, 1888.
[116] See Green, Quain's Dic. Med., N. Y., 1884, p. 877.
[117] See Bennett, Nutrition in Health and Disease, London, 1876;—Fothergill, Indigestion and Billousness, N. Y., 1882, p. 210;—et al.
[118] See Russal, London Lancet, May 29, 1858, p. 528;—Helss, Inaug. Diss. München, 1857, s. 5.
[119] A simple and readily applicable method of estimating the amount of urea in a specimen of urine is that proposed by Squibb; London Lancet, 1884, Vol. ii, p. 653.
[120] See Fox, op. cit., p. 174;—Heiss, op. cit., s. 9;—Huss, Lungenentzündung, Leipzig, 1851, s. 47;—Lépine, Pneumonie, Wien, 1883, s. 67;—Rayer, Mal. des Reins, T. i, p. 537;—Rosenstein, Path. u. Therap. d. Nieren;—Zimmermann, Prager Vierteljahrsschift, 1852, s. 118;—et al.
[121] Holmes' Syst. Surg., Phila., 1881, Vol. ii, p. 819.
[122] For further information see Baginsky, Pneumonie u. Pleuritis, Würzb., 1880, s. 43;—Charcot, Thèse de Paris, 1871;—Fränkel, Charité Ann., Berlin, 1875, Bd. ii;—Hœpfiner, Thèse de Paris, 1872;—Lépine, op. cit., s. 144;—Oppolzer, Ausscheidung de Harnsäure, München, 1858;—Scheube, Arch. d. Heilkunde, Bd. xvii, 1876;—et al.
[123] See Lépine, op. cit., s. 68;—et al.
[124] See Bennett, Mon. Jour. Med. Sci., Dec. 1854;—Fox, op. cit., p. 174; —Gerhardt, Arch. de Méd., 1881;—Lépine, op. cit., s. 69;—Parkes, op. cit.;—Salkowski, Lehre vom Harn, s. 162;—Velden, Virchow's Archiv., 1877, Bd lxx, s. 374;—Vogel, quoted by Lépine, op. cit., s. 69;—Williams, London Lancet, N. Y., 1862, Vol. ii, p. 4;—Wilson, On Fevers, N. Y., 1881;—Wilson, Edinb. Med. and Surg. Jour., 1836;—et al.
[125] Lépine, op. cit.;—Parkes, op. cit.;—Schulte, Inaug. Diss., Marb. 1823;—Zuelzer, Virchow's Archiv., 1866, Bd. lxvi;—et al.
[126] Chemistry of Man, Vol. ii, p. 216.
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[132] See Bartholow, Prac. Med., N. Y., 1881;—Flint, Prac. Med., Phila., 1868, p. 178. Redtenbacher, 7 op. cit., attributed the absence or diminution of the chlorid in the urine and blood to changes in diet, but this occasionally is the cause. Burot, London Lancet, N. Y., 1883, Vol. ii, p. 505, considers the phenomenon due to the rise of corporeal temperature. Routh, Med. Times and Gaz., April 7, 1855, thought the disappearance of the chlorids from the blood and urine a cause and not an effect of the disease.
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[134] This proposition requires modification, inasmuch as in some cases the chlorid of sodium is not even diminished. See Bednar, Kinderkrankheiten, s. 268;—Fox, op. cit., p. 237;—Sturges, Pneumonia, London, 1876, p. 264;—Zuelzer, Semiology des Harns, Berlin, 1884.
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CARBUNCLE: ITS ETIOLOGY, PATHOLOGY AND TREATMENT.

Read before the First Pan-American Medical Congress.

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Carbuncle was formerly looked upon as a peculiar mysterious disease having a pathologic process of its own, with little or no relationship to any other disease, either in its etiology, its pathology, or its indications for treatment.

The teaching and especially the practice of the present day indicate that we are still in bondage to the traditions of the older pathology with respect to carbuncle, chiefly because it is one of those more common diseases which have received scant attention in later years on account of the allurements of visceral surgery, and the rewards of work and study in the newer fields.

A conviction that there are established facts and available knowledge respecting this disease, which are not fully reflected in the views and the practice of to-day, is sufficient justification for an effort to ascertain and correlate what is known of the cause and nature of carbuncle, and for urging a more rational and radical method of treatment.

The observation has often been made and should be reiterated that the names, anthrax and malignant pustule, should no longer be used interchangeably with carbuncle. To avoid confusion the latter term should be reserved exclusively to designate the disease under consideration, while the former should be applied only to that disease of the lower animals which is contagious, sometimes communicated to man, and is caused by the anthrax bacillus.

Etiology.—Carbuncle is a disease of microbic origin, like all of its class. This has been demonstrated by the researches of Garrè,[1] Bockhart,[2] Baum and others. The microörganism most frequently found is the staphylococcus aureus. In the minority of cases there are present also the staphylococcus albus or the streptococcus pyogenes, or the two together with the former, but always outnumbered by it. The coccus may enter the skin through the hair follicles, the sebaceous gland ducts, the sweat glands or an abrasion of the epidermis.[3] The organism may enter also through the alimentary canal or the respiratory tract. We are nowhere more in bondage to the traditions of the elders than in the belief that this disease is of constitutional origin. The notion that it is a disease of the cachectic, the alcoholic, the tubercular and the diabetic was easily believed and necessarily prominent before local causes were demonstrated. The most that can be rightly claimed for the constitutional factor is that it increases the vulnerability of the tissues and predisposes to acute suppurations in general, rather than to carbuncle in particular. Even the diabetic, so prominently associated with carbuncle, does not often have the disease. The writer believes, with others, that the systemic vices are greatly overrated as etiologic factors, and though no statistics are at hand to prove it, it is even believed that the disease is not found more often, relatively, in the cachectic classes than in those of good health. The association of these constitutional conditions with carbuncle, in a causative relation, is probably partly accounted for by the fact that statistics used by writers and teachers have been collected more from the older large public hospitals and almshouses rather than from private practice and the smaller modern private hospitals. Whatever may be the exact facts in relation to this question it is certain that whoever ignores the local origin and local nature of the disease is handicapped and disarmed for the proper treatment of his patient.

Carbuncle is a disease of middle life, while its near relation, furuncle, is preëminently a disease of the adolescent, a clinical fact which is to be accounted for on the ground of histological variations in the skin at these periods of life as given below.

Anatomy and Pathology.—Nosologically, carbuncle is one of the acute suppurative inflammations of connective tissue, and hence is generically related to osteo-myelitis, parenchymatous abscess, acute abscess and furuncle, as well as other suppurative dis-

eases of the skin. The essential unity of the group is shown when we consider that all have a local origin, all involve the same histologic structure, and all are due to the invasion of the same pus coccus; or at least one of the pyogenic cocci. The differences in clinical history, the divergence in pathologic process and the various modes of termination which are found when we compare the several diseases of this generic group with each other, are determined by differences in the anatomic structure of the region or organ concerned. These differences are quite as marked in the skin of different regions of the body when they are compared with each other, as are those found in one organ when compared with other organs. These variations in histologic anatomy relate to thickness, density, toughness, elasticity, vascularity, the surrounding attachments and the amount and mode of disposition of the adipose tissue.

It is these variations in histologic structure of the skin in different regions of the body, or the structural differences in the various strata of the skin in a given region, that determine whether in a given case of invasion by the pyogenic coccus we shall have a superficial pustulation, as impetigo; or a deeper and more extensive suppurative process, as furuncle; or a still more deeply seated and extensive one, as acute subcutaneous abscess, or carbuncle, as the case may be. When the coccus invades the mouth of the hair follicle, sebaceous gland or sweat gland, and is arrested there, we have impetigo[2] or one of its congeners. There is little tension, no stasis, no obstruction to the outflow of fluids or pus and no slough.

When the deepest part of the epithelial structures of the follicle, or the sebaceous or sweat gland is invaded a true furuncle is the result.[2] Here there is a degree of obstruction to the outflow of fluids and pus on account of the depth and partial closure of the passage way. Hence we have tension, stasis, liquification (pus), a limiting wall, and in the center a cone-like slough which consists of the remnants of the gland or follicle surrounded by as yet undigested connective tissue, especially fibers of the yellow elastic tissue.

But when the pus coccus passes beyond the epithelial layer of the skin into the cutis vera, the result is either an acute abscess[2] with its circumscribed cavity filled with digested connective tissue and inflammatory products, or, on the other hand, a carbuncle with its dense infiltrated mass of undigested connective tissue, without any circumscribed cavity. Whether it be an abscess or a carbuncle will depend on the histologic structure of the skin of the particular region invaded. The region of predilection of carbuncle is "the dense and fibrous integuments over the posterior median line of the body." The skin of this region is characterized by:

1. Its extreme thickness, especially the relative thickness of the cutis vera.

2. The aponeurotic-like density of the papillary layer and its having few and small openings.

3. The more direct connection of the subcutaneous tissue with the reticular part of the true skin, as one continuous structure.

4. The number and size of the polygonal spaces found in the subcutaneous and reticular strata, caused by the diverging and interlacing bundles of dense and not easily dissolved fibrous tissue which make up the framework of these strata. These polygonal spaces are chiefly occupied by adipose tissue constituting the paniculus adiposus, and a delicate network of fine easily digested connective tissue.

5. The presence of Warren's fat columns, extending from the adipose tissue below, to the base of the follicles of the lanugo hairs above, with their horizontal branches.[3]

6. The dense, tendon-like, cone-shaped fibrous bundles which extend from the base of the adipose columns obliquely to be inserted into the muscular fascia beneath.

The pus coccus having passed down and invaded these tissues, a focus of inflammation is begun and we have all the factors and conditions necessary for the production of a typical carbuncle. The delicate network of areolar adipose tissue succumbs readily and liquifies, and as tension increases pus is forced to the surface through the slender adipose columns into the hair follicles as the only means of escape. Thus we have the numerous pus points, and eventually the cribriform condition of the surface of the skin so characteristic of carbuncle[4]. As tension increases, the inflammation is forced to extend laterally further and further from the original focus through the polygonal spaces and channels occupied by the rapidly dissolving delicate connective tissue and fat. Thus we have the characteristic peripheral extension and the broad, flat indurated mass pressed between the still resisting dense papillary layer above, and the muscular fascia beneath, which are still firmly bound together by the tendon-like cones of fibrous tissue. If now an incision be made into this mass there would be seen the numerous small pus points and channels but no proper pus cavity; both of which conditions are well-recognized features of carbuncle. The process continues until the skin over the original focus becomes necrotic and sloughs away, thus reducing the tension and peripheral pressure and we have the first step towards the natural limitation of the disease. But if this infiltration and induration have already extended so far as not to be influenced by this diminution of tension it will continue to spread indefinitely or until the sloughing process following in its wake has gained on it sufficiently to entirely arrest the peripheral tension. After all the long-resisting, dense, fibrous parts described above, which began to die with the skin, have yielded and sloughed piecemeal, we have the crater-like cavity co-extensive with the indurated mass.

It is said carbuncle may occur on any part of the body, but this is not correct of true typical carbuncle conforming to a fixed definition. We can not have a typical carbuncle without continued surgical tension in inflamed tissues, one part of which resists the digestion or liquifying process of suppuration longer than other parts.

Many cutaneous inflammations are loosely called carbuncles, when they are simply abscesses. But as the characteristic features of the carbuncular skin are only typical in certain regions of the body, and are found more or less perfectly or imperfectly in other regions, it will often happen that a suppurative inflammation of the skin and subcutaneous tissue can not be definitely classed either as a carbuncle, an abscess or a furuncle; or that the characteristics of one predominate while those of the others are present in some degree.

Treatment.—The general indication for treatment is the same as in any other disease, viz.: To limit

its extent and duration. The special indications are to arrest suppuration and to prevent septicemia.

The history of the means and methods of treating carbuncle would fill a volume. Palliative means are useful and to be recommended if nothing better can be done. Many good surgeons advocate a purely expectant course and discard all active means, relying on internal medication, and treating it as a self-limited disease, not to be interfered with. Most surgeons, however, recognize the necessity of doing something to hasten the sloughing in order to relieve tension, and thus limit the extent of the disease and prevent absorption of diseased products.

Caustics, incisions—single, multiple, subcutaneous and the time-honored crucial incisions are relied on. These are to be recommended, also, if nothing more efficient can be done, but they are all inadequate to fulfill the indications, although they accomplish something. Scraping, as advocated by Page and Owen[5], and Mr. Teale, of Leeds[6], and even the "excision and scraping" as advocated by Rushton Parker[7] are valuable means in certain stages, after sloughing has begun. But these means are properly applicable only to those cases where the disease has ceased to extend, and are to be considered only as adjuvants to the incisions and caustics.

The injection of various antiseptics into the mass before sloughing has begun, as advocated by some, would hardly be relied upon by any one who had an adequate conception of the anatomy and nature of the disease. But it is not my purpose to review and compare discarded or prevalent methods. As a substitute for all of these, I would advocate total extirpation of the indurated mass, as we would remove a benign tumor. If this is done early the entire skin can be saved. If it is done later, there will be some loss of skin over the original focus but the patient will be saved from all the dangers of septicemia—the cause of death in carbuncle, usually miscalled exhaustion. If the patient already have septicemia and there remains a ring of indurated tissue beyond the sloughing center, extirpation is still the best means of saving the patient's life. It should be resorted to in all cases, whatever the stage of progress, except those in which the disease has clearly run its course, when the excision and scraping of Rushton Parker would be sufficient.

It is a rational, life-saving and time-saving method, and will commend itself to all who try it. All the reasons that call for amputation of a gangrenous limb can be urged in favor of total extirpation of carbuncle. The writer has practiced total extirpation in all suitable cases for the last five or six years.

The technique of the operation requires but few words. Anesthesia is required, which should be as brief as possible and not profound if the patient already suffers from septicemia.

A crucial incision should extend to just beyond the borders of the induration. The four flaps are to be dissected up to the limits of the disease, which can usually be made out easily, contrary to what is generally taught. Then with the volsella forceps and a knife the mass is readily dissected from its attachments to the deep fascia and removed entire or in sections, according to its size and condition. The four flaps are then stitched together toward the center, more or less closely, according to the amount of necrosis and sloughing. When the extirpation is done early, there will often be no loss of skin and but little subsequent discharge. There are no blood vessels in or under the skin in the carbuncular regions that should terrorize any one.

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UTRICULITIS; A CONTRIBUTION TO THE PATHOLOGY OF THE PROSTATIC UTRICLE.

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It is well known that the genital organs of the adult vertebrate are developed from two primitive organs of the embryo, the bodies named for Wolff and Müller; and that the sex of the individual varies with the relative development attained by these organs. In the future male animal the Wolffian duct furnishes the genital canal—epididymis and vas deferens—while the Müllerian duct suffers more or less complete atrophy; in the future female, on the other hand, the Müllerian duct furnishes the genital canal—Fallopian tubes, uterus and vagina (to the

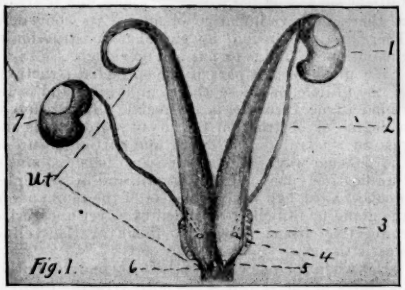

Fig. 1.—Internal genital organs of male guinea pig. 1, testicle; 2, vas deferens; 3, seminal vesicle; 5, orifice of vas deferens into uterus; 5, orifice of uterus into urethra; 6, verumontanum; 7, testicle displaced to show extremity of uterus; *ut*, right masculine uterus (Müllerian duct). Prostate not represented.

hymen)—the corresponding portions of the Wolffian duct suffering atrophy. In the most highly organized mammals, the male genital canal acquires certain accessory sexual glands not constantly found in the lower vertebrates—seminal vesicles, prostate, Cowper's, urethral and preputial glands—while the Müllerian duct exhibits marked atrophy; in man there persist regularly only the two rudimentary extremities of this duct, the hydatid of the testicle and the prostatic utricle.

Yet in some species the Müllerian tract retains in the male, side by side with the fully developed Wolffian canal, a high degree of elaboration; among the many species of mammals that I have personally dissected, none presents a clearer picture of the complete Müllerian duct in the male than the familiar guinea pig. In this animal the testicles are abdominal organs, lying somewhat below the kidneys; the usual organs of the male mammal are well developed, but in addition there are found two large

tapering tubes, each arising as a blind extremity behind the testicle, describing almost a complete circle, passing behind the urinary bladder, and after receiving the ejaculatory duct opening into the urethra at the side of the verumontanum (Fig. 1). Each tube is therefore the complete Müllerian duct, whose homology with the internal sexual organs of the female guinea pig becomes apparent by inspection of Figs. 1 and 2; the ovaries differ from the testicles in their greater proximity to the kidneys; the Müllerian ducts (uteri) retain separate cavities until they reach the vagina.

In the human male, the lower end of the Müllerian duct persists as the so-called masculine uterus or prostatic utricle; though it is evident from comparative anatomic study that this rudiment represents the vagina rather than the uterus of the female. The term "prostatic utricle" conveys a second misconception, derived from human anatomy, as to the relations between prostate and utricle—namely that the latter is merely an appendage of the prostate. While this is usually the anatomic relation in man,

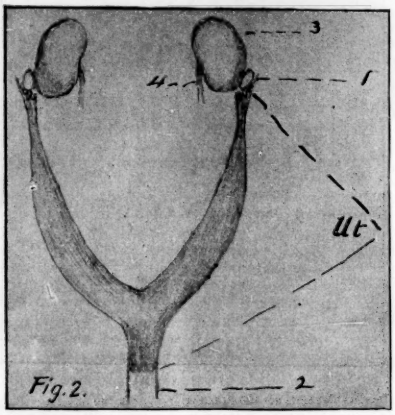

Fig. 2.—Internal genital organs of female guinea pig. 1, ovary; *ut*, left tube and uterus; 2, vagina; 3, kidney; 4, portion of ureter.

yet a study of their relations in various mammals shows this relative significance in the two organs to be reversed, *i. e.*, that the prostate is really an appendage of the utricle, an accessory and by no means constant gland of varied size and shape, always located—when present—at the orifice of the uterus (Müllerian duct). It is significant that in certain male mammals, *e. g.*, the ram, whose utricle is usually atrophied into a solid cord, the prostate is lacking entirely. In others—hare, squirrel, prairie-dog, for example—the prostate is a purely glandular structure which does not surround the urethra as in man, but lies entirely below this channel, being attached to the under surface of the utricle (Fig. 3); even in man the prostate is sometimes entirely suburethral—Dittel has dissected three such instances; and in the usual human prostate the *glandular* structures retain the original suburethral position, adjoining the utricle.

In a few animals, notably man, the prostate acquires an additional function—that of a vesical sphincter—quite foreign to its original universal office, that of a sexual gland; this is secured by the extension toward the bladder of muscular bands which encircle the urethra, *between this channel and the utricle* (Fig. 4).

This interposition of a complete muscular sphincter between utricle and urethra leads to the apparent burying of the utricle in the prostate; yet careful dissection will usually show that the body of the utricle is not surrounded by prostatic tissue; that it lies behind the prostatic sphincter (the "third lobe" of Sir E. Home) and between the upper ends of the lateral lobes, which separate to accommodate it (Fig. 5).

Fig. 3.—Part of bladder, prostate and urethra of hare, showing *suburethral* type of prostate found in many species. 1, bladder; 2, prostate; 3, urethra.

In other words its posterior surface and upper extremity are bordered, not by prostatic tissue but by the pelvic connective tissue. The clinical significance of this anatomic arrangement is apparent; a suppurative process in the utricle—and these must be frequent as extensions from the deep urethra—is separated from the pelvic connective tissue only by the thin wall of the utricle; it would seem *a priori* that peri-prostatic infection would be easier through the delicate extremity of the utricle than through the thick muscle and firm capsule of the prostate proper.

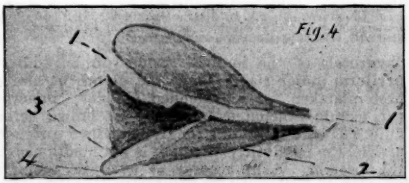

Fig. 4.—Longitudinal section human prostate, patient dead of consumption, aged 24. 1, urethra; 2, lateral lobe; 3, "third lobe" (between urethra and utricle); 4, utricle.

Though the pathologic and clinical possibilities of the utricle in man have been almost unnoticed, yet in a few cases the persistence of a large part of the Müllerian duct has been recognized; thus Martin records the persistence of Müller's ducts in a fetus at full time, and refers to a case wherein Boogaard discovered at the autopsy of an adult man, two complete Müllerian ducts extending from kidneys to urethra (Fig. 6). Rémy and Barth found in a 5-year-old boy a canal extending from a suprarenal capsule to the verumontanum, open from the summit of the

trigone; retention of urine requiring the use of the catheter, had repeatedly occurred. Reliquet found a complete Müller's duct in a man of 45 years. In Franque's case the Müllerian ducts of an adult man were found united into tubes, uterus and vagina opening into the prostatic urethra (Fig. 7).

Persistence of the entire Müllerian canal in the human male, as recorded in these cases, is doubtless a rare occurrence, a teratologic curiosity beyond clinical recognition or relief; but the distal extremity of the duct, the prostatic utricle, is a constant anatomic factor in man, to whose clinical importance it is the object of this paper to direct attention.

I have been able to find but one allusion to this topic in the literature accessible to me—the article of Englisch, who found in five out of seventy autopsies of new-born infants the utricle more or less distended, sometimes rivaling the urinary bladder in size; he suggests the probable dependence of urinary retention in the new-born upon the urethral obstruction due to this distended sac. There are recorded, however, several cases of retro-vesical cysts in adults, which, though apparently distended utricles, were assumed by the observers to have originated in the seminal vesicle. Thus N. R. Smith described as a

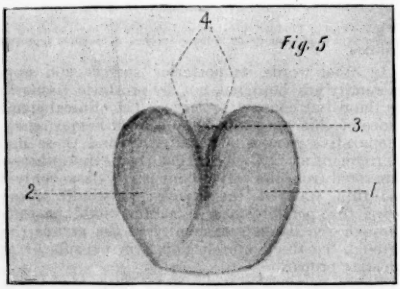

Fig. 5.—Rectal surface of human prostate (same as represented in longitudinal section in Fig. 4). 1, right lateral lobe; 2, left lateral lobe; 3, triangular space between upper extremities of lobes, occupied by utricle; 4, bristles passed into ejaculatory ducts.

"hydrocele of the seminal vesicle" in an adult, a pyriform tumor rising above the umbilicus and at first mistaken for a distended bladder; puncture per rectum evacuated ten pints of brown serous fluid. The description strongly suggests a distended utricle, the possibility of which is not mentioned by the observer. Ralfe records as a "cystic tumor of the left seminal vesicle" in an adult, a sac which was found on autopsy to have no communication with the vesicle, but arose from the prostate—probably a distended utricle; (evidently neither Smith's nor Ralfe's was a case of hydatid cyst, not uncommon in the male pelvis.)

The undistended utricle in man is a chestnut-shaped sac lined with mucous membrane in which are imbedded numerous racemose glands; its pointed extremity opens into the urethra through a narrow orifice in the verumontanum; its rounded base lies between rectum and bladder, and between the upper ends of the prostatic lobes laterally. Its depth, stated by anatomists to be one to one and one-half centimeters (four-tenths to six-tenths of an inch), I found to average in twenty-seven adults nearly one and one-half centimeters; the greatest depth I have observed is two and one-half centimeters, though Adams has measured a utricle over three centimeters deep. Occasionally distinct bifid prolongations—vestiges of the separate Müllerian canals—have been observed. In man, the ejaculatory ducts usually run in the lateral walls to separate exits into the urethra; sometimes one and rarely both ducts open into the utricle—a more frequent arrangement in other animals.

The utricle might, therefore, be expected to exhibit two morbid conditions: 1, distension of the sac with its own secretion after occlusion of its narrow urethral orifice; and 2, suppurative inflammation by extension from the deep urethra; in this case septic infection of the recto-vesical connective tissue surrounding the upper extremity of the utricle—"peri-prostatic" inflammation and abscess—would be a natural possibility.

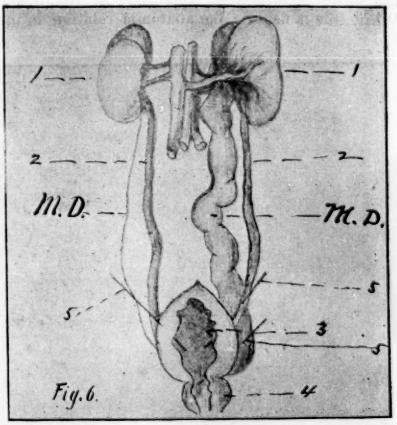

Fig. 6.—Müllerian ducts in adult man (Boogaard). 1, kidney; 2, ureter; 3, bladder; 4, prostate; 5, bristles in ureters and ducts; M.D., persistent Müllerian ducts (the right atrophied to a mere cord).

The first of these, the distension with physiologic products, has been proven by the observations of Englisch and others already mentioned; that suppuration in the utricle and vicinity is the explanation of cases of chronic prostatis, prostatic and peri-prostatic abscess, seems evident from the following personal observations:

Postmortem.—As prostatic suppuration is not commonly fatal, opportunity for postmortem observation is limited; only two cases have come under my observation since my attention has been directed to this subject:

1. A patient of Dr. J. C. Cook, of Hyde Park, Ill., about 40 years of age, had long suffered from the symptoms usual to vesical calculus; at intervals, bladder irritation and straining would become extreme, then several drachms of thick pus would be expelled from the urethra, after which the vesical symptoms would abate for a time, until the process was repeated—in short, a prostatic abscess seemed to

fill and discharge repeatedly. I saw the patient once with Dr. Cook; no stone was detected and a cystoscopic examination was agreed upon, but never executed. The patient dying a few weeks later of cystopyelitis, the bladder and prostate were kindly sent to me. There was a fibrous polyp of the fundus of the bladder; the utricle was over an inch deep, distended with pus, and projected nearly half an inch above the prostate; the surrounding recto-vesical tissue hard, the seminal vesicles somewhat distended but not inflamed.

2. A man 62 years old, upon whom I made suprapubic cystotomy for stone, died six weeks later of chronic uremia; the symptoms of vesical irritation persisted after operation. Autopsy showed chronic cysto-pyelitis; the utricle presented the appearance of an evacuated abscess cavity and extended almost to the level of the summit of the trigone; the recto-vesical connective tissue was brawny and contained a small abscess contiguous to, but apparently not communicating with, the utricular cavity.

Clinical.—While a clinical diagnosis of utricular abscess lacks the certainty of anatomic demonstration, yet the following cases seem incapable of other explanation:

A commercial traveler, aged 40, was referred to me by Dr. H. M. Lyman, of Chicago, in December, 1890. For three years he had had the usual history

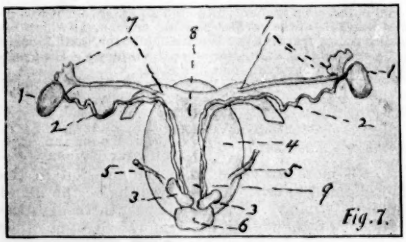

Fig. 7.—Müllerian ducts (tubes, uterus and vagina) in adult man (Franque). 1, testicle; 2, vas deferens; 3, seminal vesicle; 4, bladder; 5, ureter; 6, prostate; 7, Fallopian tube; 8, uterus; 9, vagina.

of chronic prostatitis in a marked degree, with much rectal irritation, though repeated examinations had failed to disclose any morbid condition of the rectum; no anterior urethritis in eighteen years. In December, 1890, after a severe jolting, the symptoms were aggravated, culminating ten days later in complete retention of urine. While straining to urinate he had a sensation as of "something breaking," immediately followed by a discharge per urethram of an ounce or more of thick, offensive pus; urination became at once possible.

I first saw him a few hours after this episode; the prostate was symmetrically swollen and tender, the space betweeen the seminal vesicles tense and tender, the vesicles themselves not especially sensitive.

For several months, in spite of irrigations, injections and instillations of the deep urethra, the abscess cavity kept filling and at intervals discharging (with the urine) quantities of extremely fetid pus. I then made, in the Presbyterian Hospital, a perineal urethrotomy, expecting to find and curette a prostatic abscess cavity; but the prostatic urethra appeared to the finger quite normal. The operation and subsequent drainage caused no appreciable improvement in the symptoms. About this time the probability that the utricle was the abscess cavity occurring to me, I passed a narrow knife from the perineum into the bladder between the upper extremities of the lateral prostatic lobes so as to pierce the utricle; a small drainage tube was left in the track of the knife, and the cavity irrigated with hydrogen peroxid. Complete healing was secured; urine and urination became normal and so remained a year later, when patient was last seen.

I can recall several prior cases which probably belonged to the same category, though unrecognized at the time; cases in which, as in the instance just related, perineal urethrotomy and drainage failed to relieve a chronic prostato-cystitis, or even to reveal any morbid feature of the bladder neck (tuberculosis having been certainly excluded); and in two cases of prostato-cystitis apparently due to early prostatic enlargement, thorough stretching of the prostate and drainage through a perineal incision failed to relieve, even temporarily, any of the symptoms. In one of these, complete relief followed the spontaneous emptying of a "prostatic" (perhaps utricular) abscess some months after operation. Two years ago while examining for Dr. Henrotin, of Chicago, a man 60 years old, suffering from prostato-cystitis attributed to prostatic enlargement, I compressed the recto-vesical tissue between a sound in the bladder and a finger in the rectum; the urine passed immediately afterwards contained a quantity of fetid pus. The symptoms of cystitis, which had been pronounced and constant for a year, entirely disappeared within two weeks; and fourteen months later urine and urination were still perfectly normal.

With Dr. W. K. Harrison, of Chicago, I saw a man 65 years old, who for several years had had the usual history of a prostatic; during the last six months urination had become practically dependent upon the catheter; the urine contained some blood but only a little pus. The prostate and recto-vesical tissue were swollen. Two days later I made a perineal urethrotomy; the exploring finger found a swelling at the floor of the urethro-vesical orifice which burst under pressure, discharging perhaps an ounce of pus; the empty cavity was found to occupy the position of the utricle. There was no decided hypertrophy of the prostate.

Such experiences have led me to think that utriculitis is often a factor in the production of the prostatic and vesical symptoms attributed to prostatic enlargement as well as of the apparent enlargement itself, which is certainly at times edematous and inflammatory rather than hypertrophic; and that operative measures for the relief of prostatic enlargement should provide for drainage of the prostatic urethra and of the utricle. I have elsewhere (JOURNAL AMERICAN MEDICAL ASSOCIATION, April 7, 1894) described, as "posterior prostato-cystotomy," an operation which seems to possess certain advantages over the supra-pubic incision; among others it affords access to the utricle, seminal vesicles and prostatic urethra, whose morbid conditions are apt to be confounded with "cystitis."

Summary.—1. The rudimentary extremity of the Müllerian duct in the human male, commonly termed the prostatic utricle, is not wholly inclosed by the prostate, but is partly bordered by the pelvic connective tissue.

2. It presents two morbid conditions: *a*, distension with the products of its own glands; and *b*, suppurative inflammation; the latter may infect the contiguous recto-vesical connective tissue.

3. The almost complete inclosure of the utricle by the prostate results in a community of morbid processes, and of clinical symptoms.

4. In cases of prostato-cystitis from any cause, prostatic and peri-prostatic abscess, the possibly important rôle of the utricle should be considered.

5. Because of the minute size and frequent occlusion of the urethral orifice of the utricle, the usual methods of medicating the deep urethra can not be relied upon to influence a morbid process in the utricle itself.

6. The utricular cavity can be reached (aside from the possibilities of the endoscope) in three ways: *a*, through an aspirating needle passed from the perineum into the triangular space between the upper extremities of the lateral prostatic lobes; *b*, through a puncture with a narrow knife passed from perineum to bladder through the triangular space mentioned, with appropriate drainage; this can be readily added to the ordinary drainage of the bladder by perineal urethrotomy; *c*, by incision into the ischio-rectal fossa and separation of rectum from prostate.

7. Disease of the utricle seems to have been erroneously attributed to the seminal vesicle.

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CLINICAL HISTORY OF THE CASE OF PRESIDENT JAMES ABRAM GARFIELD.

BY ROBERT REYBURN, A.M., M.D.

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(*Continued from page 549*).

August 24, 8:30 A.M. Temperature 98.5; pulse 100; respirations 17. August 24, 12:30 P.M. Temperature 99.2; pulse 104; respirations 17. August 24, 6:30 P.M. Temperature 100.7; pulse 108; respirations 19.

August 24 8:30 A.M. The President passed a very good night awakening at longer intervals than during several nights past. He continues to take liquid food by the mouth with more relish, and in such quantity that the nutritive enemata were suspended for the present. Shortly after the noon bulletin was issued, an incision was made into the swelling on the right side of the President's face for the purpose of relieving the tension of the swollen parotid gland and giving vent to pus, a small quantity of which was evacuated by the operation. The seat of the incision was sprayed with carbolic acid, but no anesthetic was given him, and he bore the operation well. He has not suffered from nausea to-day. 6:30 P.M. His temperature this afternoon is, however, higher than yesterday at the same hour, and his pulse somewhat more frequent.

The President continues to be very anxious to leave the White House. To-day he asked Dr. Bliss if he could be removed by the time cold weather came. Dr. Bliss told him he would be removed as soon as his stomach was all right. "It's all right now," said the President. "I want to get away. If we can't go to Mentor, I want to go down the river on the *Tallapoosa*." (Steamship.) The President slept most of the night, but his sleep was broken and disturbed. Professor Agnew, who had returned to Philadelphia on the 23rd inst., was telegraphed for, and joined in the morning consultation of the 25th.

August 25. This morning the President is taking liquid food in sufficient quantity so that the nutritive enemata have not been renewed. August 25, 8:30 A.M. Temperature 98.5; pulse 106; respirations 18. August 25, 12:30 P.M. Temperature 99.2; pulse 112; respirations 19. August 25, 6:30 P.M. Temperature 99.8; pulse 112; respirations 19.

Many statements having become current to the effect that the condition of the President was greatly influenced by the miasma generated by the marshes which existed south of the White House; the matter was carefully considered by the attending and consulting surgeons this morning, and they issued the following bulletin after the morning dressing of the wound:

AUGUST 25, 9:15 A.M.

The subject of the removal of the President from Washington at the present time was earnestly considered by us last night and again this morning. After mature deliberation the conclusion arrived at by the majority was that it would not now be prudent, although all agree that it will be very desirable at the earliest possible moment at which his condition may warrant it. We are, moreover, unanimously of the opinion that at no time since the injury has the President exhibited any symptoms of malaria.

(Signed) FRANK H. HAMILTON,
D. HAYES AGNEW,
D. W. BLISS,
J. K. BARNES,
J. J. WOODWARD,
ROBERT REYBURN.

A little more pus came from the incision in the parotid gland to-day, but the swelling of the gland remains stationary. During the past three days the President's demands for his removal to some other locality have been frequent and almost imperative. He is most anxious to go some place, but not to the Soldiers' Home. He will not think of that. He has been very restless over the subject, and his determination to be taken to another place has been the cause of much anxiety in the sick room. Upon that subject alone he has refused to be guided by his physicians and friends. He refuses to pay any attention whatever to statements that it was impossible to take him away from the White House. After he had been told that he could not with safety be removed, he would not be in the least convinced, but would still as earnestly and persistently say that he must get away. Mentor is where he specially wants to go. Next to that he wants to be taken on board the steamer *Tallapoosa* for a cruise upon the salt water. His persistence in this matter may perhaps be explained by the fact that whenever he went upon a sea voyage he was always greatly benefited thereby. At 6:30 P.M. the wound was dressed as usual, and no unfavorable change has been observed in his condition. He has taken by the mouth a sufficient supply of liquid food.

August 26, 8:30 A.M. The President slept most of the night, awakening at intervals of half an hour to an hour. On first awakening there was, as there has been for several nights past, some mental confusion,

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which disappeared when he was fully aroused, and occasionally he muttered in his sleep. These symptoms have abated during this morning, as on previous days. At present his temperature is slightly above the normal, and his pulse a little more frequent than yesterday morning.

August 26, 8:30 A.M. Temperature 99.1; pulse 108; respirations 17. August 26, 12:30 P.M. Temperature 100; pulse 118; respirations 18. August 26, 6:30 P.M. Temperature 99.9; pulse 116; respirations 18.

After awakening this morning the President's mind seemed perfectly clear, and he conversed rationally with the surgeons about the condition of the inflamed parotid gland. At the morning dressing of the President it was observed that pus from the parotid swelling had found its way spontaneously into the right external auditory meatus, through which it was discharging; some pus was also being discharged through the incision made over the swollen parotid gland, and also into the mouth, having dissected its way along the course of Steno's duct.

His wound looks as well as it has done for some time past. His pulse and temperature are at the present higher than at the corresponding hour for some days past. He continues to take by the mouth the liquid food, and it seems to be assimilated without difficulty, nevertheless we can not but regard his condition as extremely critical.

August 26, 6:30 P.M. The President's condition has not materially changed since the noon bulletin was issued. He occasionally asks for food, and since yesterday forenoon, commencing at 11:30 A.M., the nutritive enemata have again been given at regular intervals, as a means of administering stimulants as well as nutrients. The President seems drowsy and slept a considerable part of the day.

August 27, 8:30 A.M. The President slept from half an hour to an hour or more during the night. He continues to retain the liquid food given by the mouth, and the stimulating enemata; nevertheless his pulse has become more frequent since midnight, and at 6 A.M. this morning was so flickering and irregular that it was impossible to count it. He is evidently feebler this morning than yesterday.

August 27, 8:30 A.M. Temperature 98.4; pulse 120; respirations 22. August 27, 12:30 P.M. Temperature 99.6; pulse 120; respirations 22. August 27, 6:30 P.M. Temperature 98.9; pulse 114; respirations 22. At the morning dressing no material change was observed in the wound, and the parotid swelling appeared to be in the same condition as yesterday. The temperature which was slightly subnormal in the morning, rose a little over one degree (Fahrenheit) by noon, and during the morning the pulse was somewhat fluctuating.

August 27, 8:30 P.M. There was no improvement in the condition of the President at the time the noon bulletin was issued; during the afternoon, however, his symptoms showed a slight amelioration. His pulse became less frequent, and his temperature a little lower (98.9 F.). The mental disturbance mentioned in yesterday morning's bulletin has disappeared. The parotid swelling has discharged a little pus by the opening spontaneously formed into the ear as well as by the incision made, but it is not perceptibly smaller. The liquid food given by the mouth and the enemata continue to be retained; 10:30 P. M. The President seems more comfortable. This has been a gloomy day at the White House. The surgeons and attendants were on duty all night, and for almost the first time the President expressed himself in terms of discouragement about his own case, and inquired anxiously about his symptoms. His mind is perfectly clear.

August 28, 8:30 A.M. The amelioration in the President's symptoms announced in last evening's bulletin continued during the night, and since midnight some further improvement has taken place. The pulse has progressively diminished in frequency. The stomach has continued to assimilate the liquid nourishment administered, and last evening he asked for and ate a small quantity of milk toast. Stimulating and nutritive enemata continue to be retained. There has been no mental disturbance during the night or this morning.

August 28, 8:30 A.M. Temperature 98.4; pulse 100; respirations 17. August 28, 12:30 P.M. Temperature 99.5; pulse 104; respirations 18. August 28, 6:30 P.M. Temperature 99.7; pulse 110; respirations 20.

August 28, 12:30 P.M. At the morning dressing of the President several yellowish points were observed just below the ear over the swollen parotid, and an incision being made about a teaspoonful of pus escaped. There was also some discharge of pus through the two openings (into the ear and the one made by the incision) mentioned in previous bulletins. The wound looks rather more healthy than it has been doing for several days past. Since the morning bulletin there has been a slight rise of temperature though but little increase in the frequency of the pulse.

August 28, 6 P.M. The improvement in the President's condition still continues. He continues to take willingly the liquid food given him, and also retains the stimulants and nutrients given him by enema. His pulse is stronger than it was at the same hour yesterday, and but little rise in temperature has taken place since noon.

August 28. This day (Sunday) was intensely hot, the thermometer ranging over 98 degrees F. during the entire day, and the cooling apparatus was put in operation to the great relief of the suffering President. This day prayers were offered on behalf of the President in all the churches of Washington City, and indeed in nearly all the churches in the country. During the evening I told him of the prayers so universally being offered in his behalf. With a sad and pathetic smile he answered: "I am glad of it; I have need of them."

August 29, 8:30 A.M. The President's symptoms this morning are as favorable as they were yesterday at the same hour. Last night was spent much more comfortably by the President than the previous one. He was restful and there was none of the hacking cough that had disturbed him the night before. He slept (awakening at intervals) the greater part of the night. At these intervals he took and retained the liquid nourishment administered. His mind continues perfectly clear.

August 29, 8:30 A.M. Temperature 98.5; pulse 100; respirations 17. August 29, 8:30 A.M. Temperature 98.6; pulse 106; respirations 18. August 29, 6:30 P.M. Temperature 100.5; pulse 110; respirations 18.

August 29, 12:30 P.M. At the morning dressing another small incision was made in the lower part of

the swelling on the right side of the President's face, which was followed by a free discharge of pus. A similar discharge took place through the other openings. The swelling is perceptibly smaller and looks better. The wound remains in an unchanged condition, and during the dressing this morning the catheter used in injecting and cleansing the wound passed downwards to a depth of twelve inches. There has been little rise of temperature since the morning, but the pulse is more frequent.

August 29, 6:30 P.M. The President has been comparatively comfortable during the day. He has taken the usual amount of nourishment by the mouth, with stimulating enemata at stated periods. His rise of temperature this afternoon is one degree F. less than yesterday at the same hour, and his pulse is less frequent than at noon to-day. The parotid swelling has been discharging more freely, and is continuing to diminish in size.

Queen Victoria through Minister Lowell sent on Saturday a message to Secretary Blaine saying: "I am most deeply grieved at the sad news of the past few days, and would wish my deep sympathy to be conveyed to Mrs. Garfield."

August 30, 8:30 A.M. Last night was an uneventful and quiet one for the President, as he slept the greater portion of the night. The rise in temperature last night was due no doubt to the accumulation of pus in the swollen parotid, and subsided as soon as it was evacuated.

August 30, 8:30 A.M. Temperature 98.5; pulse 102; respirations 18. August 30, 12:30 P.M. Temperature 98.9; pulse 116; respirations 18. August 30, 6:30 P.M. Temperature 99.5; pulse 109; respirations 18.

August 30, 12:30 P.M. At the morning dressing another small incision was made in the lower part of the swelling on the right side of the President's face, which was followed by a free discharge of pus. A similar discharge took place through the other openings. The wound in the body remains in an unchanged condition. There has been a very slight rise in the temperature since the morning dressing, but the pulse is more frequent. In other respects his condition remains about the same.

August 30, 6:30 P.M. The President has had a fairly comfortable day. The only solid food given him was a little soft milk toast, with occasionally a spoonful of chicken jelly. He took his liquid food as usual with the nutritive enemas. The President complained this afternoon of pain in the parotid gland, which is discharging freely, and is continuing to diminish in size. His temperature this afternoon is a degree (F.) less than it was yesterday at the same time, and his pulse is less frequent than at noon to-day. The pus in the track of the wound in the body is dissecting its way downwards towards the right iliac fossa and a probe can be easily passed downwards to the extent of twelve inches. This channel was kept free from accumulations of pus by being irrigated with weak solutions of carbolic acid or permanganate of potash twice a day; while doing this the catheter was carefully withdrawn so as to avoid undue distension of the track of the wound.

August 31, 8:30 A.M. The President passed a very tranquil night. The sensitiveness of the parotid gland of which he complained yesterday afternoon abated, and he was without pain from that cause. In addition to the liquid food given him, he received a small piece of steak of which he swallowed the juice.

August 31, 8:30 A.M. Temperature 98.4; pulse 100; respirations 18. August 31, 12:30 P.M. Temperature 98.4; pulse 95; respirations 17. August 31, 6:30 P.M. Temperature 98.6; pulse 109; respirations 18.

August 31, 12:30 P.M. At the morning dressing the parotid gland was found to be discharging freely. It has materially diminished in size, and the openings made in it show evidences of the formation of granulations around their edges.

August 31, 6:30 P.M. The President has passed a better day than he has had for some time past. He has taken his food with increased relish, and the usual afternoon rise of temperature did not occur. At the evening dressing the solution of permanganate used to wash out the parotid abscess found its way to the mouth, which it did not do this morning, showing that an opening into the mouth has spontaneously occurred.

During the past two weeks a number of pustules of acne, many of which suppurated appeared in the axillæ, and later four or five appeared on the trunk of the body; these were about the size of large peas, and were opened as soon as they suppurated. These were evidently due to the septic condition of the President's system. The small carbuncle mentioned in the report of the autopsy upon the body of the President was no doubt due to the same cause. The above were the only suppurating surfaces, excepting the incisions made into the wound, and four small superficial bedsores formed on the sacrum, which were observed on the body of the President during his illness.

Professor Agnew returned to Philadelphia to-day, and was relieved by Professor Hamilton.

September 1. About 9 P.M. last evening the President became restless and somewhat feverish. His pulse was somewhat irregular and fluctuating, and varied from 108 to 116 per minute. This condition which was unaccompanied by rigors or sweating, had subsided by midnight and after that time he slept fairly well.

September 1, 8:30 A.M. Temperature 98.4; pulse 100; respirations 17. September 1, 12:30 P.M. Temperature 98.6; pulse 108; respirations 18. September 1, 6:30 P.M. Temperature 99.4; pulse 108; respirations 18.

September 1, 12:30 P.M. At the morning dressing of the President the abscess of the parotid was found to be discharging freely and continuing to diminish in size. The state of the wound remains the same. His general condition is not materially different from what it was yesterday at the same hour, except that the pulse is somewhat more frequent. This morning in addition to his liquid refreshment he took a little beefsteak (swallowing the juice) and some gruel.

September 1, 6:30 P.M. The condition of the President has not materially changed since the noon bulletin, except that there has been a moderate rise this afternoon amounting to one degree (F). The question of the removal of the President to a more salubrious and cooler location was discussed at the meeting of the surgeons to-day, but on account of the absence of Professor Agnew the final settlement of the question was deferred until his arrival, which will take place the day after tomorrow. The President slept well during the night, and his condition was much more satisfactory than during the previous night. He waked at intervals, and at such times was

given more nourishment than usual. There was but little fever during the night. The condition of the parotid gland and wound remains the same.

September 2, 8:30 A.M. Temperature 98.4; pulse 100; respirations 17. September 2, 12:30 P.M. Temperature 98.7; pulse 100; respirations 18. September 2, 6:30 P.M. Temperature 99.2; pulse 104; respirations 18.

Among the many suggestions made respecting the removal of the President, one is for his removal by the Pennsylvania Railroad to Elberon, and the other is for a trip by water on the steamer, *Tallapoosa*.

The mails each day bring hundreds of letters containing all manner of plans for removing the President, and suggestions as to where he should be taken. After the noon examination to-day by Dr. Bliss, General Swaim, Colonel Rockwell, Ensign Hunt and Private Secretary Brown drove down to the Navy Yard to inspect the *Tallapoosa*, and see what quarters and accommodations there would be for the President on board the vessel.

September 2, 6:30 P.M. The President passed a comfortable day, and this evening appears to be better than for some days past. He has taken a larger quantity of nourishment than usual, and manifested greater relish for it. The parotid gland continues to diminish in size. Wound shows no change.

September 3, 8:30 A.M. The President was somewhat more restless than usual during the early part of the night, but slept better after 1 A.M. This morning his general condition does not differ materially from what it was at the same hour yesterday, except that there is a slight increase in the frequency of the pulse. He is a little weaker than yesterday, but otherwise there is no change.

September 3, 8:30 A.M. Temperature 98.6; pulse 104; respirations 18. September 3, 12:30 P.M. Temperature 98.4; pulse 104; respirations 18. September 3, 6:30 P.M. Temperature 99.6; pulse 102; respirations 18.

Professor Agnew arrived this morning. There is a general agreement among the medical attendants that the condition of the President is unfavorably influenced by the excessive heat of the weather, and by the noxious emanations from the Potomac River flats immediately south of the Executive Mansion. The rank vegetation which fertilized by the city sewerage, and stimulated by abundant water and hot sunshine, covers these flats during the summer, is now beginning to decay, and since yesterday morning a faint malodorous mist has hung over the river on the south side of the Executive Mansion grounds to the Long Bridge. The prevailing winds in Washington are southerly during the summer months, and these winds brought the emanations from the flats (or marshy grounds) directly to the windows of the President's room. The risk incurred in removing the President did not seem to the surgeons to be as great as it would be if he was retained in his present location in the White House. Besides his liquid nourishment the President to-day took a little milk toast, and some of the breast of reed birds. His general condition remains the same as yesterday. After consultation it was unanimously agreed that the sea voyage on the steamer *Tallapoosa* would not be advisable, nor likely to result in any permanent benefit to the President.

September 4, 8:30 A.M. The President vomited once late last evening, and once an hour after midnight. Notwithstanding this disturbance he slept well most of the night, and this morning has taken his food without any nausea. His pulse is a little more frequent, but in other respects his condition is about the same as at this hour yesterday.

September 4, 8:30 A.M. Temperature 98.4; pulse 108; respirations 18. September 4, 12:30 P.M. Temperature 98.4; pulse 106; respirations 18. September 4, 6:30 P.M. Temperature 99; pulse 110; respirations 18.

September 4, 6:30 P.M. The President has passed a comfortable day. He has taken his food with relish, and has had no return of the irritability of stomach mentioned in this morning's bulletin. The parotid swelling is now so much reduced that the contour of the face is restored. The rise of temperature this afternoon has been very slight, but his pulse is more frequent. He seemed more exhausted than usual after the dressings of his wound, and is perceptibly weaker. He is becoming quite impatient in his desire to leave the White House for Elberon. The tenacious mucus which has been discharged in great quantities from the right side of the President's mouth has been to him a great source of annoyance and distress. This was coincident with the inflammation of the parotid gland, and as it will be remembered resulted in the formation of an abscess, which opened spontaneously, through the external auditory canal of the right ear, on August 26, and on August 31 discharged itself into the mouth. During the early stages of the inflammation of the parotid there was such rigidity of the masseter muscle that the jaws were so firmly fixed as to preclude the possibility of opening the mouth sufficiently for satisfactory examination. An interesting fact was observed that the inflammation of the mucous membrane of the mouth seemed to extend by continuity to the mucous membranes of the pharynx, larynx, trachea and bronchia. The physical signs developed the fact that acute bronchial catarrh was the sequel. Hypostatic congestion of the lungs was observed for some weeks before the President was taken to Elberon, more extensive on the right side than on the left, on account of decubitus. On the right side of the body it extended to the sixth rib posteriorly, while on the left side it was comparatively slight.

September 5. The President was restless during the early part of the night, but slept fairly well after midnight. There was no recurrence of the vomiting in the night nor was there any this morning. His pulse fluctuated during the night a good deal, and he was feverish and restless. In the night he commenced talking about the arrangements for his removal, and although every effort was made to pacify him, he persisted in talking of the matter and arranging the details of his departure. Dr. Bliss and the other surgeons told him that all arrangements were being made as rapidly as possible, and that as soon as they were completed, they would start on their journey. This morning he took beef extract and chicken broth for breakfast.

September 5, 8:30 A.M. Temperature 99.5; pulse 102; respirations 18. September 5, 12:30 P.M. Temperature 99.5; pulse 104; respirations 18. September 5, 6:30 P.M. Temperature 99.8; pulse 108; respirations 18.

The first thing the President asked Dr. Bliss this morning when he went into his room was: "Well, is this the last day in the White House?" Dr. Bliss

tried to quiet him, but he said: "No, no, I don't want any more delay." About 2 A.M. this morning the special train which is intended for the conveyance of President Garfield and the party accompanying him to Elberon arrived at the Baltimore & Ohio depot. It will be composed of an anthracite coal burning engine No. 569 (selected on account of its absence from dust), President Roberts' special car, two Eastlake cars and a baggage car. Car No. 33, which is to convey the President, has been thoroughly renovated. The seats were all taken out and a false top was placed a few inches above the roof of the car, in order to give the air an opportunity to circulate between it and the roof, so as to keep the air cool. Wire gauze was fastened on the outside of the car, completely inclosing the parlor for the President, thus keeping it free from dust. The inside was hung with heavy curtains, and Brussels carpet was laid on the floor. The method of removal of the President determined on was to take him from the White House on a stretcher in a covered wagon to the corner of Sixth Street and Pennsylvania Avenue, where he will be lifted into the car provided for his reception. To make this possible, Chief Engineer Walters had on the ground this morning a force of three hundred men, who at once proceeded to lay a temporary railroad track from the east side of Sixth Street to the main railroad track, a distance of over three hundred yards. In less than two and a half hours the rails were in place, and a train with gravel to ballast it was ready to work. Professor Hamilton preceded the rest of the party, and went to Elberon in advance, so as to have everything ready before the President's arrival. Notice has been given to all conductors and engineers to be on the lookout for the warning of the coming of the Presidential train. Immediately on the receipt of information that the train has left Washington, the trains going south on the Baltimore & Potomac Railroad will be stopped or switched off, until the train containing the President has passed by. It is intended that no noise of passing trains shall disturb the President, and for that reason trains going in opposite directions will wait until the special Presidential train has passed them. It having been decided by the surgeons that the President should be removed to Elberon, situated near Long Branch on the coast of New Jersey, the journey took place to-day. The details as to the precautions taken to secure his safe transit were of the most minute character, and every provision was made to meet such emergencies as might arise; even to the extent of providing places on the road for his removal from the train, during the journey, in case he should show symptoms of exhaustion.

(To be continued.)

Minority Report on Revision of the Constitution and By-Laws of the American Medical Association.

To the President and Members of the American Medical Association:

Gentlemen:—At the last meeting of the ASSOCIATION the Minority Committee made a preliminary report against the Majority Committee's revision, and now proposes, as a substitute for the Majority Committee's work, the following constitution and by-laws, to which are appended some explanatory notes for the convenience of delegates.

AMERICAN MEDICAL ASSOCIATION.

PLAN OF ORGANIZATION, CONSTITUTION AND BY-LAWS.

WHEREAS, The Medical Convention, held in the city of New York in May, 1846, has declared it expedient, "for the medical profession in the United States to institute a National Medical Association"; and inasmuch as an institution so conducted as to give frequent, united and emphatic expression to the views and aims of the medical profession in this country, must at all times have a beneficial influence, and supply more efficient means than have hitherto been available for cultivating and advancing medical knowledge; for elevating the standard of medical education; for promoting the usefulness, honor and interests of the medical profession; for enlightening and directing public opinion in regard to the duties, responsibilities and requirements of medical men; for exciting and encouraging emulation and concert of action in the profession; and for facilitating and fostering friendly intercourse between those who are engaged in the practice of medicine; therefore be it

Resolved, In behalf of the medical profession of the United States, that the members of the Medical Convention, held in Philadelphia in May, 1847, and all others who, in pursuit of the objects above mentioned, are to unite with or succeed them, constitute a National Medical Association; and that for the organization and management of the same they adopt the following regulations:

CONSTITUTION.

ARTICLE I.—*Title and Objects of the Association.*

SECTION 1.—This organization is known as, and shall be designated the American Medical Association.

SEC. 2.—The objects of the Association shall be:

1. The cultivation and advancement of medical knowledge.

2. The elevation of the standard of medical education.

3. The promotion of the usefulness, honor, and interests of the medical profession.

4 The protection of public health.

5. The enlightenment of the people concerning the duties, responsibilities and requirements of medical men.

6. The encouragement of emulation among members of the profession.

7. The furtherance of concert of action in the profession.

8. The establishment of friendly relations among members of the profession.

ARTICLE II.—*Members.*

SECTION 1.—The Association shall be composed of members of the medical profession who shall be known as: 1, delegates; 2, permanent members; 3, members by invitation; and 4, members by application. These several classes of members shall collectively represent the common interests of the medical profession in every part of the United States.

SEC. 2.—The delegates shall receive their appointment from permanently organized State medical societies and associations in affiliation with the American Medical Association, from the medical departments of the Army and Navy, and from the Marine-Hospital Service of the United States.

SEC. 3.—Each delegate shall hold his appointment one year, but may be appointed every year, and shall be entitled to take part in all the affairs of the Association.

SEC. 4.—State medical societies and associations in affiliation with the American Medical Association shall be entitled to appoint delegates in the proportion of one for every ten of their regular members, and one for every additional fraction of more than half of that number.

SEC. 5.—Any medical society or association that

fails to adopt the American Code of Ethics, or that has intentionally violated or disregarded any article or clause thereof, shall not be entitled to representation in the American Medical Association.

SEC. 6.—The Medical Corps of the United States Army, Navy, and Marine-Hospital Service shall each be entitled to appoint four delegates.

SEC. 7.—The permanent members shall be those who have served as delegates and continue to comply with the requirements of the by-laws and ethics of this Association.

SEC. 8.—Permanent members may take part in the scientific and social proceedings, but shall not be entitled to vote.

SEC. 9.—Permanent members are authorized to introduce, by letter or in person, to the Committee of Arrangements, regular physicians of good repute who indorse the Association's ethics and who may wish to attend a meeting of the Association as members by invitation.

SEC. 10.—The members by invitation shall be regular physicians, in good standing, from foreign countries and from sections of the United States which are not represented by delegates or by permanent members at the meeting to which they may be invited by the Association.

SEC. 11.—Physicians who are proposed for membership by invitation shall be introduced to the Committee of Arrangements and vouched for by three members in attendance, or by letters from three absent delegates or permanent members.

SEC. 12.—Members by invitation may take part in the scientific and social proceedings of the Association, but shall not be entitled to vote; their connection with the Association shall continue until the close of the meeting at which they are received.

SEC. 13.—The members by application shall be such members of societies and associations entitled to representation by adopting the American Code of Medical Ethics, as shall make written application for admission to the Treasurer of the American Medical Association.

SEC. 14.—Each application shall be accompanied with the amount of the annual dues, and a certificate of good standing signed by the president and secretary of the society of which the applicant is a member.

SEC. 15.—The names of members by application shall be placed upon the roll of membership of the Association; these members shall have all the privileges of permanent members and shall retain their membership on the same terms.

SEC. 16.—Graduates of such regular schools of dental and oral surgery as require of their students a high standard of preliminary and general education, and a term of professional study equal to that demanded by the best class of medical colleges, and embrace in this curriculum all the fundamental branches of medicine; differing chiefly by the substitution of practical and clinical instruction in dental and oral surgery, in place of practical and clinical instruction in general medicine and surgery, shall be recognized as members of the regular profession of medicine, and be eligible to membership in this Association on the same conditions and subject to the same regulations as other members.

ARTICLE III.—*Further Conditions of Admission to Membership.*

SECTION 1.—All classes of members shall subscribe to the American Code of Medical Ethics.

SEC. 2.—All classes of members whose dues are fully paid shall receive gratis the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

SEC. 3.—Every delegate, prior to the permanent organization of an annual meeting, shall exhibit his credentials to the proper committee and sign these regulations, inscribing his name and address in full, and giving the title of the institution from which he has received his appointment. He shall not be entitled to take part in any of the proceedings until he shall have complied with these requirements.

SEC. 4.—None of the other classes of members shall take part in the proceedings to which they may be entitled until they have signed these regulations; inscribing their names and addresses in full and specifying the capacity in which they attend: Whether as permanent members, as members by invitation, or as members by application.

SEC. 5.—No physician who shall be under sentence of expulsion or suspension from any medical society, or whose name shall have been dropped from the rolls for non-payment of dues, shall be received as a delegate to this Association, or be allowed any of the privileges of a member, until he shall have been relieved from the sentence or disability, or shall have paid all arrears of membership dues; nor shall any person not a member and supporter of a local medical society, where such exists, be eligible to membership in the American Medical Association.

SEC. 6.—No member expelled from this Association shall be received as a delegate or member, except by a vote of three-fourths of the delegates present at the meeting to which he is sent or at which he is proposed.

ARTICLE IV.—*Titular Officers and Committees.*

SECTION 1.—The titular officers of the Association shall be: A President; four Vice-Presidents; a Permanent Secretary; an Assistant Secretary; a Treasurer, and a Librarian. With the exception of the Permanent Secretary, these officers shall serve for the period of one year.

SEC. 2.—The committees shall be: Five standing committees; one special committee, appointed by the delegates, and as many other special committees as may be required.

SEC. 3.—The standing committees shall be: a Judicial Council; a Board of Trustees; a Committee on American Medical Necrology; a Committee of Arrangements, and a Committee on Scientific Contributions.

SEC. 4.—The special committee, appointed by and from the delegates present, shall be known as the Nominating Committee. Such other special committees as may be necessary shall be appointed by the President of the Association.

ARTICLE V.—*Amendments.*

SECTION 1.—No part of this constitution shall be amended, altered, rescinded, or abolished, and no addition shall be made thereto, except at a regular annual meeting of the Association, after due notice of such amendments, alterations, excission, abolition, or additions shall have been given in writing by a delegate, at the preceding annual meeting, and then only by a vote of three-fourths of the delegates present.

ARTICLE VI.—*Enactment of the Constitution.*

SECTION. 1.—This constitution shall go into effect immediately.

SEC. 2.—All sections or parts of sections of the prior constitution or by-laws, and all ordinances, declarations, or resolutions not in harmony with this amended Constitution are hereby repealed.

BY-LAWS.

ARTICLE I.—*Meetings.*

SECTION 1.—The regular meetings of the Association shall be held annually and shall last at least four days.

SEC. 2.—The particular place and time for each yearly meeting shall be determined by a vote of the Association on recommendation by the Nominating Committee.

SEC. 3.—Special meetings of the Association may be called, for urgent and extraordinary occasions, by the Judicial Council, but to decide the question of meeting, at least a three-fourths vote of the Council shall be required. For this end each member of the Council shall be polled through a printed communication, approved and signed by the President and Permanent Secretary of the Association together with five members of the Council, stating the particular object or objects, the place, time and duration of the meeting, and ending with, Are you in favor of holding this proposed special meeting?

SEC. 4.—Whenever the Judicial Council shall have determined the place and time of a special meeting, the Secretary of the Council shall make an announcement thereof in the JOURNAL of the Association at least three weeks in advance of the time of meeting.

SEC. 5.—No business other than that stated in the announcement shall be transacted at any special meeting.

SEC. 6.—At annual meetings of the Association there shall be two sessions each day, a morning and an afternoon session.

SEC. 7.—During the morning session of each day the general affairs of the Association shall be transacted; addresses shall be delivered; reports of committees made; communications from the Secretary read; and miscellaneous questions examined or referred to standing or special committees.

SEC. 8.—During the afternoon session of each day, beginning at 2 o'clock, essays, reports and communications of a scientific character may be presented by all classes of members. For these purposes the Association shall be divided into the following named Sections:

1. Practical Medicine and Physiology.
2. Obstetrics and Diseases of Women.
3. Surgery and Anatomy.
4. State Medicine.
5. Ophthalmology.
6. Diseases of Children.
7. Dental and Oral Surgery.
8. Medical Jurisprudence and Neurology.
9. Dermatology and Syphilis.
10. Laryngology and Otology.
11. Materia Medica and Pharmacy.

ARTICLE II.—*Nominations.*

SECTION 1.—During a recess of twenty minutes at the first morning session of the Association the accredited delegates shall meet in groups representing each of the States and Territories, the District of Columbia, the Army, the Navy and the Marine-Hospital Service; each group being authorized to select one delegate who shall serve as a member of the Nominating Committee.

SEC. 2.—The chairman of each group of delegates shall, as soon as practicable, report the name of the delegate, chosen as member of the Nominating Committee, to the Permanent Secretary who, before adjournment of the morning session of the first day, shall announce the formation of the Committee, the names of its constituent members, and the hour and particular place of the meeting.

SEC. 3.—The Nominating Committee thus constituted shall open its first session on the afternoon of the first day and elect a chairman and secretary.

SEC. 4.—In shall be the duty of the Nominating Committee to recommend to the Association for action: The President; the four Vice-Presidents; the Permanent Secretary, when that office shall be vacant; the Assistant Secretary; the Treasurer; the Librarian; the names of delegates to fill all vacancies in the first four Standing Committees, the names of three members, the first of whom shall deliver an address on general medicine, the second on general surgery, and the third on State medicine—each of these addresses not to exceed one hour in its delivery which shall be during a morning session of the Association, and to suggest the place and time of the next annual meeting.

SEC. 5.—The selection of titular officers and standing committees for nomination shall be made only among delegates present at the meeting, except in the case of the Committee of Arrangements, of the Committee on American Medical Necrology, and of those members who shall deliver addresses at the general sessions of the Association. In these cases the Committee shall act at discretion.

SEC. 6.—The Nominating Committee shall make its report to the Association during the morning session of the third day whenever practicable.

ARTICLE III.—*Duties of the Titular Officers.*

SECTION 1.—The President and Vice-Presidents shall assume the duties of their respective offices at the close of the meeting at which they were elected.

SEC. 2.—The President shall preside at the meetings, preserve order and decorum in debate, give a casting vote when necessary, and perform all the other duties that custom and parliamentary usage may require.

SEC. 3.—The Vice-Presidents, when called upon, shall assist the President in the performance of his duties, and during the absence, or at the request of the President, one of them shall act in his place.

SEC. 4.—The Permanent Secretary shall record the minutes, and authenticate the proceedings of the Association; give due notice of the place and time of each annual meeting; notify all members of their appointment and of the duties assigned them; hold correspondence with permanently organized medical societies, both domestic and foreign; carefully preserve the archives and unpublished transactions of the Association, and deliver to the Trustees all materials ordered to be published. The Permanent Secretary shall be a member of the Committee of Arrangements.

SEC. 5.—The Assistant Secretary shall aid the Permanent Secretary in recording and authenticating the proceedings of the Association; serve as a member of the Committee of Arrangements, and perform all the duties of Permanent Secretary temporarily whenever that office may be vacant.

SEC. 6.—The Treasurer shall have the immediate charge and management of the Association's funds, and shall, through the Board of Trustees, present an annual report, in detail, of the state of the treasury, and a duly authenticated account of receipts and expenditures during the current year. He shall give bonds to the Board of Trustees for the safe keeping and proper use and disposal of his trust.

SEC. 7.—The Librarian shall receive and preserve all the property in books, pamphlets, journals and manuscripts presented to or acquired by the Association; record their titles in a book prepared for that purpose; and acknowledge receipt of all property to him transferred.

ARTICLE IV.—*The Judicial Council.*

SECTION 1.—The Judicial Council shall consist of twenty-one delegates elected by the Association on recommendation by the Nominating Committee. The term of office of members of this Council shall be three years.

SEC. 2.—The Council shall appoint one of its members as presiding officer and another as secretary, who shall keep an accurate permanent record of the Council's proceedings and prepare all reports to be presented to the Association.

SEC. 3.—It shall be the duty of the Council to take cognizance of, and decide all questions of an ethical or of a judicial character that may arise in connection with the Association.

SEC. 4.—All subjects that do not pertain to the Board of Trustees, to the Committee of Arrangements, or to other committees; all questions of a personal character, including complaints, protests and irregularities in credentials; shall at once and without debate, be referred to this Council whose decisions, on these and all other questions shall be final and shall be reported to the Association at the earliest moment.

SEC. 5.—The Council shall hold its annual meeting on the day before the first morning session, and such other meetings as may be necessary during or after morning sessions of the Association. In the course of the current year, urgent questions may be settled by correspondence on the same plan as that indicated below in Section 2, Article V.

ARTICLE V.—*The Board of Trustees.*

SECTION 1.—The Board of Trustees shall consist of nine delegates elected by the Association on recommendation by the Nominating Committee. The term of service of members of this Board shall be three years.

SEC. 2.—The Board shall hold its annual meeting on the day before the first morning session, and such other meetings as may be necessary during or after morning sessions of the Association. In the course of the current year, urgent questions may be settled by written votes, provided that the questions to be determined be presented in writing, or in type, and in identical language, to each member of the Board.

SEC. 3.—The Board shall appoint one of its members as presiding officer, and one as secretary, who shall keep an accurate record of the proceedings and prepare all reports to be presented to the Association.

SEC. 4.—It shall be the duty of this Board to provide for and superintend the publication and distribution of such proceedings, transactions and memoirs of the Association as may be ordered to be published, in such manner as the Association may direct; to cause to be printed all these proceedings, transactions and memoirs in the form of a weekly publication which shall be styled THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION; and to appoint an editor and such assistants as may be needed to carry on the publication and distribution of the JOURNAL. The Board shall be authorized to determine the pay of the editor and of all subordinate persons engaged in the work of printing, proof reading, publication and distribution of all the Association's documents.

SEC. 5.—The editor of the JOURNAL shall not publish editorially, expressions contrary to the objects, ethics or discipline of the Association. Such expressions shall be regarded as disloyal to the Association whose principles he shall voice.

SEC. 6.—The secretaries of the several Sections, during the annual meetings, or as soon thereafter as possible, shall deliver to the Board of Trustees, or to its accredited agent, all papers, discussions, addresses and other documents designed for publication in the JOURNAL.

SEC. 7.—All propositions for the appropriation of money shall be referred to the Board of Trustees, with instructions to inquire closely into the nature and objects of such propositions and report thereon before final action by the Association.

SEC. 8.—Moneys derived from the business of the JOURNAL or accruing from other sources, to the benefit of the Association, and received by the Board of Trustees or its agents, shall be paid to the Treasurer of the Association.

SEC. 9.—Every order on the Treasurer for the disbursement of money in connection with the work of publication, or for the payment of other accounts against the Association, shall be indorsed by the presiding officer and secretary of the Board of Trustees.

SEC. 10.—The Board of Trustees shall hold the official bond of the Treasurer, shall annually audit and authenticate his accounts, and shall embody a statement thereof in his yearly report to the Association.

SEC. 11.—The Board of Trustees shall cause to be printed in the JOURNAL, once yearly, a list of the members, the Constitution and By-laws and the Code of Ethics of the Association, and to be inserted at the beginning of each volume of the JOURNAL the following disclaimer: The American Medical Association, although accepting and publishing the reports of the several standing committees, and memoirs, essays and discussions of members, assumes no responsibility whatsoever for the opinions, theories or criticisms therein contained, except when otherwise decided by special resolution.

SEC. 12.—No address, paper, or report shall be entitled to publication in the JOURNAL for the year in which it shall be presented to the Association, unless it be placed in the hands of the Board of Trustees, or of its accredited agent, on or before the first day of July. The document shall be so prepared as to require no material alteration or addition by its author.

SEC. 13.—Authors shall be required to return proofs of their compositions within a week after receiving them; otherwise they may be omitted from the JOURNAL.

SEC. 14.—Every paper received by the Association and ordered to be published, and all plates or other means of illustration, shall be the exclusive property

of the Association and shall be published and sold for the benefit of the Association.

SEC. 15.—The Board of Trustees shall have full discretionary power to omit from publication the whole or a part of any paper that may be referred to it by the Association, or by any of the Sections, unless specially instructed to the contrary by vote of the Association.

ARTICLE VI.—*The Committee on American Medical Necrology.*

SECTION 1.—The Committee on American Medical Necrology shall consist of one member from each State, and from each of the other interests entitled to representation in the Association.

SEC. 2.—The chairman and other members of this Committee shall be recommended by the Nominating Committee to the Association for election.

SEC. 3.—It shall be the duty of members of this Committee to procure memorials of the dead among eminent and distinguished physicians of their respective States and Territories, and transmit these memorials to the Chairman of the Committee on or before the first of April of each and every year.

SEC. 4.—The Chairman of the Committee shall make an annual report to the Association.

ARTICLE VII.—*The Committee of Arrangements.*

SECTION 1.—The Committee of Arrangements shall consist of not less than seven delegates, including the Permanent Secretary and the Assistant Secretary of the Association. The Chairman of this Committee and the Assistant Secretary, together with four delegates, shall be elected by the Association on recommendation by the Nominating Committee, and shall all be residents of the city where the meeting of the Association shall be held.

SEC. 2.—The Committee of Arrangements shall be authorized to increase the numbers of its members whenever there is need of such increase, and to hold such conferences as may be necessary prior to the annual meeting of the Association during the whole of which the Committee shall be in session.

SEC. 3.—It shall be the duty of this Committee to provide suitable accommodations for the meetings of the Association; to verify and report upon the credentials of membership; to issue credentials of membership to such physicians as fulfill the required conditions; to publish the rules governing the reading and discussion of papers, and the order of business of the general and sectional meetings; to receive and announce the titles of all papers and communications to be presented; and, with the aid of the Secretaries of the several Sections, determine the order in which the papers shall be read and discussed.

SEC. 4.—This Committee shall cause each member, of whatever class, to register, upon a blank prepared for the purpose, his name, address, source of appointment, place of residence during the meeting, and the name of the Section with which he wishes to be identified.

SEC. 5.—The Committee shall prepare a separate roll, by State and other interests represented, of all delegates present, for convenience of calling the ayes and nays when these are demanded during a morning session.

SEC. 6.—The Committee of Arrangements shall be authorized to invite distinguished laymen and also foreign medical men to take part in the scientific and social proceedings as guests of the Association.

SEC. 7.—The Association shall pay all necessary expenses for the announcement of the meeting, the publication of the programs, the cards of membership, the rental of a hall for the general meetings, and the rooms for meetings of Sections. If the Committee of Arrangements incurs other expenses it shall meet them from its own resources. The chairman of this Committee shall make his annual report at the first general session of the Association, and such special reports thereafter as may be necessary.

ARTICLE VIII.—*Dues of Members.*

SECTION 1.—The dues of all classes of members shall be five dollars a year. This shall entitle each member to receive gratis the JOURNAL of the Association for the current year. The payment of their dues shall be made by these members before they shall be entitled to take part in any of the Association's proceedings. Members not in attendance shall send their dues to the Treasurer.

SEC. 2.—Any member who shall fail to pay his dues shall no longer be entitled to receive the JOURNAL and, unless absent from the country, shall be dropped from the roll of the Association after having been notified of the forfeiture of his membership.

ARTICLE IX.—*Funds and Appropriations.*

SECTION 1.—Funds shall be raised by the Association to meet current expenses and awards, from year to year, but never with a view of creating a permanent income from investments. These funds shall be obtained from the annual dues of members, the business of the JOURNAL, and the sale of the Association's publications. Special funds may be raised through voluntary subscriptions for particular objects.

SEC. 2.—Funds may be appropriated: To defray the expenses of the Permanent Secretary in conducting the necessary correspondence of the Association, and his personal expenses in attending the annual meetings; to publish the Association's proceedings and transactions; to enable the standing committees to fulfill their respective duties, conduct their correspondence, and procure materials necessary for the completion of their annual reports; to encourage scientific investigation by prizes and awards of merit, and to defray expenses incidental to particular investigations under the instruction of the Association. Funds thus appropriated shall be paid by the Treasurer on an order from the Board of Trustees.

ARTICLE X.—*Ethics and Discipline.*

SECTION 1.—The Code of Ethics, adopted in 1847, as a condition of membership, and as it appeared with explanatory declarations in the JOURNAL of the Association, Nov. 19, 1892, shall constitute a part of the Association's laws.

SEC. 2.—The kinds and degrees of discipline of members, beyond dropping of names from the roll for non-payment of dues, shall be censure, suspension, or expulsion from the Association.

SEC. 3.—In case the Judicial Council shall be officially notified, by any organization in affiliation with this Association, of the expulsion from such organization of a member who is also a member of this Association, the name of such member shall be dropped from the roll of this Association, and he shall be notified of the fact and of the reason which led thereto.

SEC. 4.—The Judicial Council shall hear all complaints against members for conduct prejudicial to the interests of the Association or for violation of its laws. The Council shall notify any member against whom a charge has been preferred to appear in his defense, and shall at the same time furnish the accused with a copy of the charge or charges made against him. The accuser shall also be notified to appear with documents or witnesses and give evidence in the case. The accused shall be entitled to be aided in his defense by a member of the Association who shall act as his counsel, and the accuser shall likewise be aided in the prosecution by a member of the Association who shall act as his counsel. The Judicial Council shall appoint three of its members to sit as judges, who shall at the conclusion of the trial report the result thereof, for review, to the Council, whose decision shall be final.

SEC. 5.—A charge or charges against a member shall be made in writing, signed by the member making the charge or charges, inclosed in a sealed envelope, indorsed, "Charge or Charges against a Member," and shall be sent to the Secretary of the Council, to be by him presented to the Council.

SEC. 6.—The Council shall investigate all apparently flagrant violations of the Code of Ethics by a member, even without receiving formal charges from another member, and shall proceed with and decide the case as provided in Section 4 of this Article.

ARTICLE XI.—*Order of Business at the General Sessions.*

SECTION 1.—The order of business at the general sessions of the annual meetings of this Association shall, at all times, be subject to the vote of three-fourths of all the delegates in attendance; and, until permanently altered, except when for a time suspended, it shall be as follows:

1. Calling the meeting to order by the President or, in his absence, by one of the Vice-Presidents.
2. Report of the Committee of Arrangements.
3. Reception of guests.
4. Election of permanent members.
5. President's address.
6. Reports of special committees.
7. Voluntary communications, their reference to appropriate sections.
8. Recess of twenty minutes, on the first day, for the appointment of members of the Nominating Committee.
9. Announcement of the formation of the Nominating Committee.
10. Address on medicine, second day; address on surgery, third day; address on State medicine, fourth day.
11. Reports of the standing committees.
12. New business, first and fourth days.
13. Report of the Nominating Committee, and selection of the place of next meeting, third day.
14. Unfinished and miscellaneous business.
15. Reading of the minutes by the Secretary.
16. Adjournment.

ARTICLE XII.—*Rules of Order.*

Rule 1.—One hundred and fifty delegates, representing not less than twenty States, shall constitute a quorum for the transaction of business at the general sessions of the Association.

Rule 2.—Each member wishing to address the Association shall first give his name and that of his State (or, if a Government officer, his title) which shall be distinctly announced from the chair. The member may then be required to speak from the stand, but not more than ten minutes.

Rule 3.—Any member appointed on a special committee who, accepting the appointment, fails to act, shall not be continued on this Committee, and shall not be appointed on any other committee unless he offer a satisfactory excuse.

Rule 4.—No new business or resolutions by members shall be introduced at the general sessions of the second and third days, except reports of committees as otherwise provided.

Rule 5.—When a motion is under debate, no motion shall be received except motions to adjourn, to lay on the table, for the previous question, to postpone, to refer, or to amend, which several motions shall have precedence in the order in which they are enumerated in this rule.

Rule 6.—A motion for the previous question shall not be entertained unless it be seconded, and supported by at least twenty delegates. When the main question is put under force of the previous question and negatived, the question shall remain under consideration, the same as if the previous question had not been enforced.

Rule 7.—Motions to adjourn, to lay on the table, and for the previous question shall be decided without debate.

Rule 8.—Every delegate present shall vote on all questions unless excused from voting by the President with the consent of the Association.

Rule 9.—The ayes and nays on any question, when called for by five delegates, shall be decided without debate, and shall be recorded in full in the minutes of the Association.

Rule 10.—After a question has been decided in general session, except one of indefinite postponement, any two delegates who voted with the majority may, at the same or any subsequent general session of the same meeting, move a re-consideration thereof, without which no discussion of such question shall be allowed.

Rule 11.—Every delegate shall have the right to speak once on any question under consideration, but not oftener, unless by permission of the Association.

Rule 12.—All questions of order not provided for in these rules shall be determined in accordance with the rules of order embodied in Cushing's "Manual of Parliamentary Practice."

ARTICLE XIII.—*Delegates to Foreign Medical Societies.*

SECTION 1.—The President shall be authorized annually to appoint delegates to such foreign medical and other scientific societies as are in sympathy with this Association.

SEC. 2.—Suitable credentials signed by the President and Permanent Secretary of the Association will be given to those members who desire to represent abroad the American Medical Association.

ARTICLE XIV.—*The Sections of the Association.*

SECTION 1.—The several Sections of the Association shall be composed of all the classes of members. At the time of registering his name, on the blank supplied by the Committee of Arrangements, each member shall signify, in writing, the Section whose meetings he purposes to attend and with which he desires to be identified.

SEC. 2.—The Sections shall hold their sessions

during the afternoon of each day of the Association's annual meeting, beginning at 2 o'clock.

SEC. 3.—The officers of each Section shall be a Chairman, a Secretary, and an Executive Committee.

SEC. 4.—A new Chairman and a new Secretary shall be elected every year by each Section, on recommendation by a Nominating Committee appointed on the first day by the Section. On the second day the Committee shall make its report, which shall include the nomination of the Executive Committee.

SEC. 5.—The Executive Committee of each Section shall consist of the Chairman, the Secretary and three members chosen by the Section Nominating Committee, among members who have been in attendance at the sessions of the Section for at least two consecutive years. The first named shall serve one year; the second, two years; and the third, three years, so that one vacancy only shall need to be filled on each succeeding year.

SEC. 6.—The several Section Executive Committees shall unite to form one standing committee which shall be named the Committee on Scientific Contributions, and which shall annually elect one of its members as Chairman and one as Secretary.

SEC. 7.—The Committee on Scientific Contributions thus constituted shall hold daily meetings during the sessions of the Association, and such conferences at other times as may be deemed necessary.

SEC. 8.—Only questions that relate to the proper conduct of the affairs of the Sections shall be referred to this Committee, whose duties shall be solely in the direction of forwarding the scientific interests of the Sections; such as the selection of essayists, and the institution and arrangement of discussions on questions of a scientific and practical character.

SEC. 9.—The chairman of this standing committee shall make a report of its proceedings to the Association once yearly.

SEC. 10.—The chairman of each Section, at its first session, shall deliver a short address on the recent advances in the constituent branches of his Section, including suggestions of improvement in methods of observation, of study and of treatment.

SEC. 11.—As soon as elected, the chairman of a Section, aided by his Executive Committee, shall begin preparations for the annual meeting at which he shall sit. (While the Association is in session, he will be likely, by giving notice in his Section or by personal interview, to secure some very desirable papers for his Section, and thus save time and avoid extended correspondence.)

SEC. 12.—The titles of papers to be read and of communications to be made at Section meetings shall be sent to the chairman of the Committee of Arrangements one month before the annual meeting.

SEC. 13.—No paper shall be read longer than twenty minutes. In case more than this specified time be required to complete the reading, the author shall omit such parts of the composition as to bring it within the prescribed limit, but the paper may be published in its entirety if the author wishes. No member shall discuss any paper more than once, or speak longer than fifteen minutes without unanimous consent.

SEC. 14.—No paper shall be read before any Section that is not in such condition as to pass at once from the author's hands to the Executive Committee of the Section. This Committee, within thirty days, shall forward the entire work of the Section to the Board of Trustees, after having carefully edited every document, and with such recommendations as may be deemed proper. But no paper shall thus be sent by an Executive Committee unless such paper embody some of the qualities set forth as follows:

1. A clear and succinct statement of the establishment or restoration of valuable discoveries, principles and modes of practice.

2. The results of well-devised original experimental research.

3. A critical and analytical review of any particular subject, such as is likely to enable the author to deduce therefrom conclusions of much value and importance.

SEC. 15.—Other papers, containing materials of more or less value, shall be returned to their authors, to be published as they may desire, with the statement that they were read before —— Section of the American Medical Association.

ARTICLE XV.—*Medical and Surgical Exhibit.*

SECTION 1.—There shall be no medical and surgical exhibit, under the authority or recognition of the American Medical Association, other than that made before the several Sections under the supervision of the committee on scientific contributions. All that is of value to scientific and practical physicians can thus find an appreciative audience, experience having shown that all other exhibits detract from Section work, and so lessen the attractiveness of the annual meetings to those whose presence is desirable.

ARTICLE XVI.—*Amendments.*

SECTION 1.—No part of these by-laws shall be amended, altered, rescinded, or abolished, and no additions shall be made thereto except at a regular annual meeting of the Association, after due notice of such amendments, alterations, recission, abolition, or additions shall have been given in writing by a delegate, at the preceding annual meeting, and then only by a vote of three-fourths of the delegates present.

ARTICLE XVII.–*Enactment of the By-laws.*

SECTION 1.—These by-laws shall go into effect immediately.

SEC. 2.—All sections or parts of Sections of the prior By-laws or Constitution, and all ordinances, declarations or resolutions not in harmony with these amended by-laws are hereby repealed.

EXPLANATORY NOTES.

NOTE 1.—In the Minority Report, the plan of organization of the Association is not changed, because it is of historical value, and because it consists of resolutions, the amendment of which should not, even if it could, be effected.

NOTE 2.—In order that the objects of the Association may be clearly understood at a glance, the Minority Committee has reproduced them in the Constitution and re-arranged them in a separate Section with distinct sub-sections suitably numbered.

NOTE 3.—In Article II of the Constitution revised by the Minority Committee, it will be seen that four classes of members are enumerated. This is necessary for the proper government and prosperity of the Association; the members classed as delegates giving it its distinctively representative character. The whole profession in the United States can thus be as well and as equitably represented by delegates from the several States as the whole people of this

country is represented in Congress by Members and Senators from the several States.

NOTE 4.—The revised Constitution of the Majority Committee contains by-laws and details of the duties of committees which should have no legitimate place in this Constitution. The Minority Committee has therefore endeavored to put things in their proper places, and to formulate a constitution designed as the framework upon which to construct the by-laws. The Constitution is therefore the generalization, and the By-laws consist of the particularization of the rules governing the Association.

NOTE 5.—In the revised By-laws of the Majority Committee no provision is made for special meetings. Circumstances may arise demanding a special meeting, and the Minority Committee has accordingly provided therefore by adding three sections, but with the purpose of making it difficult to call a special meeting which should never be held unless required to meet a very extraordinary emergency.

NOTE 6.—The Nominating Committee is given the prominence it so well deserves. Its abolition would be a grievous wrong to the several States and to their societies which send delegates to this Association. The Majority Committee's intrusion of the Business Committee to supersede the Nominating Committee is practically attempting to make the Sections rule the Association, although that Committee disclaims any such intention. It is partly on account of this attempt that the Minority Committee suggests the change of name from General Business Committee to Committee on Scientific Contributions, and endeavors to restrict the duties of the Committee and make it subordinate to the Association. The Sections being the offsprings of, should be governed by, the Association through a committee the formation of which is authorized by the Association.

NOTE 7.—The Minority Committee's revision of the By-laws contains an Article on Ethics and Discipline rendered necessary in view of the known existing circumstances. The first Section of this Article is an additional protest against any kind of revision of the Code, and the Minority Committee hopes that no change whatever will be made in this National Code of Medical Ethics. Moreover, the Minority Committee belives that if this revision of the Constitution and By-laws is adopted, it will settle forever the ethical disputes which have so much disturbed the profession, and that it will greatly enhance the harmony, prosperity and usefulness of the Association.

HENRY D. DIDAMA,
Chairman Minority Committee.

SOCIETY PROCEEDINGS.

American Electro-Therapeutic Association.

The Third Annual Meeting Held in Chicago, Sept. 12, 13 and 14, 1893.

AUGUSTIN H. GOELET, M.D., President.

(*Continued from page 552*).

ON THE ACTION OF ELECTRICITY ON UTERINE FIBROMATA.

DISCUSSION.

DR. A. LAPTHORN SMITH had found the galvanic current arrest hemorrhage in nearly every case of this kind, even in the most desperate ones where almost every other known remedy had failed. It nearly always relieves the pain, and the failures are usually due to errors in diagnosis. Subsequently to the electrical treatment he operated in one of his cases, and found a sarcoma in which the uterus was embedded. Under such circumstances, it was impossible by palpation to make a differential diagnosis. The pressure symptoms he had found invariably relieved, most probably by the tonic action of the current on the circulation. Steady digital pressure on a fibroid for a few minutes will show the formation of an indentation. The current also improves the action of the intestinal muscles, and relieves constipation. Strength and nutrition are as a rule also improved, partly from the action on the sympathetic and partly from the arrest of hemorrhage. In about half of his cases the growth had been arrested, and in half of these it had diminished in size; in only one case was he sure it had entirely disappeared, and in this one there was no doubt about the diagnosis. One constantly hears the operators in the Philadelphia Obstetrical Society say that their most difficult cases of fibromata were difficult because of the previous treatment by electricity, but this is not true. In one case he gave one hundred applications of the galvanic current, and obtained a symptomatic cure, but the patient was not satisfied with this, and insisted on an operation. On performing laparotomy, it was found to be entirely free from adhesions. On the other hand, he had frequently been present at operations where electricity had never been used, and yet the adhesions were very extensive.

He saw no difference between a fibroid and areola hyperplasia and he maintained that a fibroid comes by obstruction of the circulation, which causes a migration of cells around the blood vessels, and change into fibrous tissue. These people are always extremely constipated, and hence there is venous obstruction. If electricity cures a fibroid it does so, he believed, through the circulation in the veins and arteries or lymphatics.

As to the contra-indications, he was in favor of taking out both fibroid and tubes when there is tubal disease, as he did not think it wise to use electricity where there is reason to suppose there is pus in the tubes. The treatment should always be so conducted as to avoid pain and not interfere with the patient's avocation. The sittings are usually from seven to ten minutes, twice a week.

If a strong current is used, patients are required to lie down for a short time, but if moderate doses have been given, even this precaution is quite unnecessary. He had never given a case of this kind more than one huudred applications, and he usually observed marked improvement after about fifteen applications.

DR. CLEAVES said that she had found the treatment of especial value in intra-mural growths, and that in this class of tumors the pressure symptoms were invariably relieved, the general health improved, and in hemorrhagic cases there was an arrest of the hemorrhage. In a limited number of cases there was anatomic retrogression, but in no instance had she observed a complete disappearance of the tumor. She believed that the arrest of the hemorrhage was as largely due to the cataphoric action of the current as to the chemic cauterization. She called attention to the experiments made by Mr. Stewart of Owen's College Laboratory, by which he had demonstrated the increase of liquids at the negative pole and also an accumulation of salts at the negative pole. In order that there should be such an accumulation, it was necessary that first there should be a decomposition and redistribution of the salts. Fibroid tumors and inflammatory products, are rich in salts, especially in chlorid of sodium, and are very largely dependent upon the presence of these for the maintenance of their nutrition and growth. The experiments to which she referred, go to show that the removal of a considerable proportion of the salts, even if that removal were temporary would result in the destruction of the tissue, while the removal of a small proportion would affect its nutritive activity. That the contractile action of the current upon the unstriped muscular tissue of the uterus exerted a powerful influence both in controlling hemorrhage and interfering with nutrition, she believed.

Every one accustomed to making intra-uterine applications of the constant current is conscious of this, not only in the bearing down and expulsive pains complained of by the patient, but in their action upon the electrode, forcing it from its position unless carefully held there by the finger of the operator. These contractions serve to empty the blood vessels.

The action of the absorbents in removing the products of inter-polar electrolytic action must not be lost sight of. She had found the induced and static induced currents of very great avail as an adjuvant in the treatment of fibroid growths by means of the constant current. Cases in which the static induced had been used noted a marked sense of buoyancy and lightness in the pelvis, as well as a general sense of well being.

G. BETTON MASSEY, M.D., read a paper on

THE ELECTRICAL TREATMENT OF FIBROID TUMORS.

The invitation to participate in this year's discussion on the electrical treatment of fibroid tumors was a most welcome one, as it is a subject of daily interest to me. To those among you equally interested in it with myself, the annual recurrence of this discussion suggests far more than the threshing over of old straw; it suggests rather a new harvest of ideas and practical points, to which each of us may contribute our sheaf of information.

Before referring to the special points arranged for the discussion I shall allude to the

VALUE OF EARLY DIAGNOSIS AND TREATMENT OF INCIPIENT FIBROSIS.

This convention should call the attention of the profession to the importance of an early diagnosis and early treatment of this condition.

Case after case of large growths are referred to us, but where are the little ones? Each large growth has been small at one time, though its presence has as a rule been unnoted until its relatively large bulk called attention to it physically. Its earlier manifestations were possibly slight, since I have known some tumors attain the dimensions of a small cocoa-nut without giving rise to symptoms, but it is more likely that the earlier symptoms were mistaken for something else. I do not doubt but that there are scores of women to-day in this city with undiscovered fibrous nodules within the uterine substance varying from the size of a pea to a hickory nut, who are under treatment by gynecologists for such supposed affections as displacements, chronic metritis, menorrhalgia, menorrhagia, laceration of the cervix, cellulitis and ovarian disease. I know this mistake is being made by reputedly good diagnosticians, and the evidence is contained in the histories of my cases, nearly all of whom were treated for some one of these conditions during the first three to ten years of the tumor's growth. Corroborative evidence has even been furnished by myself, in the discovery that in several cases in which an enlarged uterus had been diagnosed as chronic metritis or subinvolution, galvanic treatment led to a shrinkage of the organ everywhere but in one spot, where a small tumor was then evident.

These small growths should be searched for in obscure cases of pelvic pain, uterine enlargement, etc., and the patient placed promptly under electrical treatment when they are discovered, thereby saving her from years of misery, and at best a more prolonged treatment.

The early treatment of these tumors can not be other than advantageous as compared with late treatment. Their incipiency and smaller size are decided helps to a method that acts only by inducing retrogressive changes; yet there is another reason for early diagnosis and early treatment. All fibroid tumors are amenable to electricity in their early stages, while some, by reason of degenerative changes in the later stages of their growth, become finally unfit for it.

This slurring over the diagnosis of fibroid growths is probably due in part to the former attitude of the profession which looked on the affection as neither requiring radical measures for surgical relief, nor amenable to any other form of treatment. Patients were simply told to wait for the menopause, in the hope that change of life would bring relief. Surgeons at the present day pay but little attention also to small incipient growths, for patients at this stage seldom consent to an operation. To the electrical worker, only, the early discovery of fibroid growths is of interest, not to mention the paramount importance of early discovery to the patient to whom it may mean a still existent possibility of relief from electricity that would not be possible after time had permitted a degeneration of the growth.

1. *Hemorrhage.*—Of eighty cases under my care thirty-four have been hemorrhagic. Other cases had been troubled with this symptom at previous dates in their history, but thirty-four were markedly hemorrhagic at the inception of the treatment, some of them being in dangerously weakened conditions because of the extreme loss of blood. Each one of the thirty-four were cured of this symptom, so far as my investigations into their after condition can reach. In some of the cases a prolonged treatment was necessary to insure this result, but I have been fortunate in obtaining the cooperation of the patients in most instances. By prolonged treatment I mean an active treatment of three or four months, followed by a more desultory series of applications for three months or a year longer. During the continuance of the active treatment, frequent applications are made in order that an alterative effect may be obtained throughout the cavity. This sometimes temporarily aggravates the flow, or at least leads to a constant dribbling, but it is essential in order that a control of the case may be obtained. The desultory treatment following is applied twice or once a month, and like the earlier applications is very thorough, using from 100 to 200 milliampères. Sectional carbon electrodes are used when they can be inserted at first, but after the hemorrhagic feature has been somewhat controlled I prefer to use an elastic cotton-covered electrode as causing less irritation to the cavity. The active pole is invariably positive.

I have never yet been compelled to dilate the cervix to facilitate the insertion of an electrode, and would regard such a necessity as a confession of inexpertness.[1]

A recent case of a large hemorrhagic growth was so exsanguinated and weakened as to be brought in a chair. There was a history of a recent pelvic inflammation, and the temperature on admission to the Sanatorium varied between 101 and 102, indicating the possibility of peri-uterine mischief. Notwithstanding this contra-indication to electricity something had to be done, and it was soon seen that currents of 100 milliampères were well borne. During a period of rest following the active treatment the periods became almost normal, eight pounds in weight were gained and the health greatly improved. The treatment was given in this case to a lady continuously confined in bed, with an evening temperature varying from 99.5 to 101, with excellent results. The temperature became normal under the treatment.

This case has been specially mentioned, as it is decidedly against the rule to apply such currents during the existence of temperature variations of that extent. The wisdom of neglecting the rule in that particular case was verified by the results, but it should be borne in mind that the applications were tentatively begun, most closely watched, and prosecuted under the most favorable conditions for careful work.

2 *and* 3. *Pain and Pressure Symptoms* were present in nearly all of the cases treated and were among the earliest accompaniments of the tumors to disappear under treatment. The symptomatic cure was complete in seventy-two cases out of eighty. Of the eight failures, one was an extremely large growth in the abdomen, hanging pendulous above the pelvic brim and totally inaccessible by the vagina. Further treatment by abdominal puncture is contemplated. One case, a cystic, intra-uterine growth, succumbed to sepsis. Another was subperitoneal, loosely attached to the uterus and inaccessible to treatment. The remaining five cases fell into surgical hands after the more or less complete failure of electricity to relieve, and only one survived the operation of removal. Of these cases thus operated upon I consented to the operation in two, and the other three were operated upon either against my will or without my knowledge, and the operations were in my opinion totally inadvisable.

4. *Strength and Nutrition.*—The general health was completely restored in each of the seventy-two symptomatic cures.

5. *The Growth* was affected as follows in the seventy-two cases:

a. Arrest	10
b. Retrogression	49
c. Disappearance	7
d. Recurrence	1
e. No change	13

6. *Kind of Current.*—A continuous milliampère current has been employed in all cases, varying in strength from 30 to 400 milliampères, usually from 50 to 150. The rapidly successive induction currents from powerful primary faradic coils were used in a few muscular myomas, resulting in temporary but distinct contractions of the growths. The galvanic currents only have seemed to yield permanent results, though at present I frequently employ faradic currents simultaneously by means of a combiner, and am convinced that they do much to relieve patients of the, at times, unpleasant sensations accompanying and following the galvanic applications.

7. *Properties of the Current.*—*a.* Electrolytic. The mode of action of electricity on fibroid tumors embraces other elements of value than mere electrolysis. Electrolytic disturbance of tissue cells is probably the prime cause of arrest and regression of these growths, but it should by no means be supposed that the mode of action is by the

[1] Since writing the above, I have been compelled to use the dilator to insert an electrode within the os in a case of atresia caused by the improper placing of the electrode by a previous attendant. He had simply cauterized the mouth of a cavity that was four inches deep and capacious.

electrical decomposition of the growth into acids and bases. This occurs to some extent, but by far the greater part of the growth is removed by an apparent quickening of the metamorphic and sorbefacient processes, and this quickening will be found by experience to be not necessarily correlated in degree with the degree of electrolytic decomposition induced. Relatively weak currents, in other words, will accomplish more change in some cases than stronger ones. Another practical application of this fact enjoins us to exercise care not to nullify or interfere with the post-operative effects of one application by giving another too soon afterwards.

b. Cataphoric. I have had no practical experience with the cataphoric administration of medicaments in fibroids, but aside from this possibly fruitful question, I may say that electric osmosis is an important factor in the Apostoli treatment. The positive pole, for instance, checks hemorrhage largely by drying the tissues within the region of its polarity. With a strong current this desiccation may extend some distance from the point of contact, a whole tumor being partly deprived of its moisture, which is carried through the tissues towards the negative pole. The desiccation immediately beneath a small electrode surface is at times so great when strong currents are employed that a very powerful battery is required to keep up a sufficient current strength through the rapidly increasing resistance at this point. At the negative pole there is an increase of moisture in all galvanic applications in exact proportion to the loss at the positive pole. This physical fact renders it easier to maintain the current strength from a weak voltage when the negative pole is a small active surface; the current tends in fact, to creep upwards after being turned on to a certain point. Another practical application of the fact is the value of the negative pole in maintaining drainage from the uterus and in promoting the menstrual flow.

9. *Dosage.*—As before mentioned, the currents in my work have varied from 30 to 400 milliampères by the monopolar method, usually averaging from 50 to 150. The doses, are on the whole, smaller than I used at first, as it is my practice to be satisfied with moderate progress if unaccompanied by irritation. In an intra-uterine, sessile, vasculo-cystic tumor recently destroyed successfully by bipolar electrolysis I employed as much as 700 milliampères repeatedly in conjunction with continuous irrigation.

Polarity.—No cases were treated exclusively by one pole, except the distinct vascular growths, in which the positive pole was rigidly adhered to. Other growths were treated mainly by the negative application within the uterus.

Length of Seance.—The duration of each application has been from three to ten minutes, usually three.

Frequency of Application.—Twice a week or once a week is the usual rule of frequency, daily vaginal applications being interspersed by preference. In the latter stages of prolonged cases one treatment a month has been the rule.

Duration of the Treatment.—My cases have been under active treatment from six weeks to six months, with periods of desultory treatment usually added, lasting three months to three years longer.

Contra-indications.—Cystic growths, purulent accumulations within the adnexæ.

DISCUSSION.

Dr. Engleman thought it unfortunate that the discussions on this subject had been almost entirely from one side or the other; the surgeons ignore the electrical treatment, and the electro-therapeutists the surgical treatment. He had secured the arrest of hemorrhage and relief of pain; arrest of growth, and in some cases reduction. In inoperable cases which were doomed to suffer, the galvanic current gave more relief than any form of medication, and restored the patients to a useful life. He did not doubt that the tumors could be reduced provided the treatment was fortunately begun at the right time, but he had seen some striking instances of retrogression occurring without any treatment, and this has been the experience of many surgeons. He cited a case in which an enormous tumor had gradually disappeared, but it could not be attributed to the treatment. In another case, there was such a terrible hemorrhage that it was necessary to postpone the contemplated operation. The tumor was observed from time to time by Dr. Hodgeman and himself, and it first underwent fatty degeneration, and eventually was completely absorbed. He had come to the conclusion that we should limit our treatment with strong currents and by puncture to tumors in a healthy state of growth or of retrograde metamorphosis; but if a solid growth of any kind shows a tendency to malignant metamorphosis, electrical applications will aggravate this tendency. The specimens of fibroids which had been removed by Martin, of Berlin, seem to show that if malignant degeneration be present, electricity will hasten it, just as it will hasten fatty degeneration and absorption.

In the early days he used Apostoli's platinum trocar, yet he had seen no discomfort following such treatment, although there would be some hemorrhage. While using the coulombmeter for investigation, and as a matter of interest sometimes in clinical work, he saw no practical advantage in its use, for a current of a certain density—100 to 150 milliampères is essential.

The President said he did not hesitate to operate upon cases which did not yield to electricity, provided the symptoms warranted the complete removal of the tumor—not simply the removal of the appendages, which he regarded a useless procedure. One of the principal uses of electricity in certain fibroids of the uterus is to build up the patient's health sufficiently to admit of resorting to a surgical operation when it is demanded. We may confidently expect from electrical treatment, a symptomatic cure—the control of hemorrhage, and the relief of pain and pressure symptoms. The arrest of the growth is assured if the conditions for treatment are favorable, *i. e.*, in interstitial fibroids and in subperitoneal growths situated favorably for vaginal puncture. He had seen considerable retrogression under certain conditions, but he had never observed complete disappearance. The galvanic current is the only one suitable, and his impression was that a more profound effect was produced by strong currents of short duration than by mild currents for a longer time. Usually twice a week is sufficiently often for intrauterine applications and once a week where puncture is employed. The choice of the pole depends upon the case; in soft myomatous growths and where hemorrhage is a prominent symptom, the positive pole should be used, but where the growth is hard and fibromatous, the negative pole is more appropriate. This he considered important. He thought little could be accomplished short of six months, and the treatment should be continued so long as progressive retrogression and improvement is observed. In recent growths and in myomata we may expect more retrogression than in fibromata.

He directed attention to the danger of producing cervical stenosis, as he had seen this condition quite often in cases which had come to him from other operators. This had occurred in some instances after the use of currents of only fifty milliampères negative when the treatment had been continued for a long time.

Dr. Smith asked if there had been any evil effects from this stenosis.

Dr. Goelet replied that in one case there was complete stenosis, so that it was quite impossible to introduce an electrode or sound into the cavity, and the pain was so severe that it became necessary to do a hysterectomy.

Dr. Hayes said that for some twenty years Dr. ——— used the induced current with the positive pole directly over the tumor, and with a sufficient current to produce decided muscular contractions. The induction apparatus used by him had a large wire so as to produce a current of low voltage and slow interruption; in short, very decided muscular contractions.

When he had patients with fibroids, he employed the Apostoli method, and after two or three days gave a bath with the induced current in order to favor metabolism. For the relief of pain he had been using statical electricity, an electrode being introduced into the vagina or uterus, and a large diffusion electrode placed on the abdomen, and the current being broken in the metallic circuit by a modified Morton electrode. He thought this treatment altered cell action, and acted as a useful adjuvant to the Apostoli method, giving the best results in the shortest time.

Dr. Kellogg, in closing the discussion, said that from experiments he had made upon living rabbits, and on beefsteak, he had found that a feeble current will after a long time produce very nearly the same electrolytic effect as a more intense current will in a shorter time.

Sufficient attention is perhaps not given to the danger of puncturing the uterine wall in this method of treatment, for the reason that sometimes in the growth of the tumor a portion of the uterine wall may become very much stretched and attenuated. He mentioned this because of the paper which had been read this afternoon on passing a sound into the Fallopian tubes—an operation which he would never attempt. As a rule the opening of the tube is not large enough to admit a bristle, and hence it is extremely likely that the

tube will be punctured, and the electrode brought in contact with a loop of intestine, which it will destroy. Stenosis of the cervical canal may be to a great extent avoided by insulating the cervical portion of the electrode by a piece of gum catheter, but unless one produces stenosis, he hardly thought one would be successful in curing these cases of fibroids, this being the natural condition occurring at the menopause.

EVENING SESSION—THIRD DAY—SEPTEMBER 14.

The meeting was called to order at 8:30 P.M.

J. MOUNT BLEYER, M.D., and M. MILTON WEILL, M.D., of New York city, read a paper on

THE PRIMARY ACTION OF THE GALVANIC CURRENT—IT INCREASES THE AMOUNT OF OZONE IN THE BLOOD AS SHOWN BY CHEMICAL TEST OF THE BLOOD IN THE ARTERIES—WITH OUR THEORY OF ANIMAL ELECTRICITY.

Schönbein, in drawing his conclusions regarding the nature of ozone, assumed that oxygen was capable of three distinct conditions, viz.: ozone, electro-negative, antozone, electro-positive, and neutral oxygen, which, as its name indicates, has no polar distinction, but could be polarized and depolarized at will.

Of these three so-called forms of oxygen, the investigations of the observers since the day of the great Basle chemist have much changed our views. To-day we admit the existence of only two forms of oxygen—ozone and neutral oxygen, and for the sake of elucidation we give you the graphic construction of the molecule as we believe it to be:

$$\begin{matrix} - & + & - \\ O & O & O \end{matrix} = \text{ozone.}$$

$$\begin{matrix} - & + \\ O & O \end{matrix} = \text{neutral oxygen.}$$

Assuming, as he and the aftercoming observers did, that oxygen in its free state was neutral, and it so proved to be, he reasoned, and it is within the pale of all researches, even up to our own time, that as soon, or rather as we have found it, just before this oxygen enters into combination with either organic or inorganic substances in the presence of moisture it becomes polarized.

Carrying these conclusions into the field of physiologic chemistry, he became convinced that the corpuscles like phosphorus were possessed of the power of polarizing the oxygen in the lungs, and further of splitting up the molecules and rearranging them in the form of ozone. His idea was that ozone existed in the blood, that it was the vital oxidizing agent by means of which the recuperative changes in the tissues were wrought, yet the years of careful work he devoted to searching, failed him in finding the slightest trace of ozone in the blood.

In his later years he became equally emphatic in his assertion that the resolution of ozone—its oxidation was so rapid that in the blood and the moistened tissues surrounding the capillaries where the real respiration is accomplished it would be next to impossible to chemically detect the presence of ozone by the most delicate test. He even went so far as to doubt its existence in the blood, that is to say, he believed that it was ushered into existence and was used up in performing its function so quickly that it was not possible to chemically isolate it, that in the blood of the capillaries—presumably the radicals, although he does not so put it—where the pressure conditions are such as to allow of the free interchange of the gases of the blood with the tissue elements, ozone no longer existed.

Like many other great minds Schönbein was right in many of his claims, but in many other of his theories he allowed himself to fall into error, for in justice to those who come after him to study this question of the physiologic significance of ozone, and with no discredit to his greatness Schönbein left much to be cleared up and explained. The ever changing and improving chemic facilities and knowledge make this task far more easy. With the advantages afforded by the chemistry of his day, Schönbein accomplished an Herculean task. That famous physiologist, His, who had grown up in the shadow of Schönbein's laboratory and influence also failed to discover ozone in the blood.

At the very time His was engaged in his futile efforts, Alexander Schmitt was at work upon the same question—ozone in the blood.

We need not rehearse the details of Schmitt's methods; suffice it to say his experiments were elaborate and carefully made, and showed beyond doubt that ozone existed in the blood; but the quantity, apparently, was very small.

Not long afterwards Kühne, improving on Schmitt's tests, proved that ozone existed in the blood in readily appreciable quantity, and the question was forever settled in the affirmative.[1]

Kühne concluded, and his deductions were not far from approximating the truth, that the red corpuscles greedily absorb ozone under the natural formation of carbonic acid, and decompose water as free oxygen is liberated.

Our experiments on the blood with the galvanic current are in a line with those of Kühne and Schmitt, only a short step in advance of those observers, a mere completion of their unfinished tasks. Whatever value the results we have obtained may have, there can be no doubt that the galvanic current applied to the living body, whatever else its action may be, increases the amount of ozone both in the corpuscle and the plasma.

Before entering into a rehearsal of the details of our experiments, let us briefly touch upon the physiology of the blood and the function of its gases; for here it is that we suspected the seat of first physiologic action of the galvanic current, and here, too, we were led to trace to its source, animal electricity, and observe its function as we suppose it, in the human economy.

The Blood—Its Gases and Solids.

The gases in the blood, the carbonic acid, the nitrogen and the oxygen, which interests us in particular, need not be gone into at length.

The oxygen in the blood exists in two forms: 1, that which is held in solution by the plasma; and 2, that which enters into combination with the constituent elements of the corpuscle.

The first variety commands our attention for the reason that to all appearances, the galvanic current first acts upon this freely dissolved oxygen and which naturally, therefore, first undergoes the transforming change from O_2 into O_3.

With a single exception, that of defibrinated blood, the blood obeys Dalton's well-known law of the absorption of gases by liquids. In vacuum 100 volumes of blood give up a trifle over 72 volumes of gas, of which in arterial blood 20 volumes, upon analysis, consist of oxygen, while in venous blood the volume is reduced to between 8 or 10.

The plasma simply holds the oxygen in solution, while the hemoglobin, which by actual weight makes up 90 per cent. of the dried corpuscle, enters into partial combination with the oxygen, although we have observed, and the observations are in keeping with those of other observers, that the oxygen in the hemoglobin is in such a loosely combined state that it readily solves its bonds of union, and under the slightest provocation goes over to the other elements for which it has affinity as soon as the pressure conditions of the plasma are changed so as to permit of a loosening of its bonds.

Plasma, or to be more accurate, fresh serum, will, upon exposure to the air, absorb no more gas than ordinary water under similar conditions, some three volumes; defibrinated or whipped blood, however, contrary to what might be expected, takes up considerably more. This will suffice for the behavior of the gases of the blood. Now a word about its solid constituents.

In general, in the plasma they are serum—albumen, globulin and crystallizable fatty and nitrogenous matter which, as we shall endeavor to show, are rendered more diffusible by this very transformation of oxygen into ozone, caused by the polarizing action of the existing animal electricity of the body, and rendered even more diffusible by the action of the galvanic current.

In the larger vessels, for example, the carotid artery which we have chosen as the seat of our experimentation, not only because it is accessible and convenient, but rather because it is a direct branch of the aorta where both the plasma and corpuscles are equipped with all the oxygen they can carry, the blood is charged to its full capacity with those elements which it is commissioned to give up to and upon which the tissues depend, particularly oxygen.

All physiologists agree that in these large vessels carrying arterial blood the hemoglobin in the corpuscle is in the form of oxyhemoglobin which signifies simply that the hemoglobin has entered into partial combination with as much oxygen as it can hold, and that it is ready to transfer this oxygen to the tissues as soon as the oxygen of the plasma has become exhausted, and the pressure conditions become so reduced as to permit the giving up of the gas.

(To be continued.)

[1] Kühne and Scholz, Virchow's Archiven, 1865.

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SATURDAY, APRIL 21, 1894.

ELMIRA REFORMATORY.

For many years this institution has led all others in the world in scientific studies and treatment of criminals. The application of modern theories of the disease of criminology, has been very strikingly illustrated in the physical and mental training of the inmates of this prison. The success of these new methods has so far exceeded the expectations of its advocates, that it has attracted a worldwide interest. These methods are briefly, physical culture, baths, industrial and military training, exact life and living, mental culture and rewards and punishment as an incentive. The inmates are treated by building up the physical and mental; and the crime is assumed to be a part of his physical degeneration, to be reached and controlled by the application of exact physical measures. Experience has built up a system of means and appliances and proved their value by practical application at this reformatory, far in advance of any other in the world. Pioneer work and pioneer men always encounter savage opposition. Not unfrequently the work is halted and put back to another period.

Such a storm has just passed over the Elmira institution. It began in wild newspaper charges and concentrated in an investigation by a committee of the State Board of Charities. The chairman of this Committee died at the beginning of the investigation; the second member, a noted physician, after a few hearings went off to Europe and failed to return, and the remaining member, an impractical lawyer, continued the investigation alone and made the final report. A student of history could have formulated the charges against this institution and its management without any knowledge whatever. Such charges invariably begin with the officers, who are called cruel, unjust, unlawful, inhuman, etc.; as a result, mismanagement, incompetency, and neglect follows. Then follow charges of financial disturbances and dishonesty. Thus history was repeated in the charges in all its details in this investigation.

The financial workings were found correct, and the storm gathered round the methods of punishment by spanking. It was found from thirty years' experience by the management, that blows by a broad strap on the nates were the most effectual method of procuring obedience. This had been carried on for years under the Superintendent's direction, and proved to be an effectual stimulant to the small proportion of rebellious prisoners. Over a thousand pages of the report are devoted to the testimony concerning the horrors of this mode of punishment. Minute evidence gathered from convicts in State prisons who were former inmates and discharged prisoners, ex-keepers and others, all witnesses of the most unreliable character, is presented with a gravity that is farcical. The assertions that reddened skin from blows on the buttocks are "inhuman" and "brutal," reflects sadly on the wisdom of parents and the home experience of many centuries.

The testimony of two hundred witnesses has been spread over thirteen bound volumes of nearly four thousand pages, costing over ten thousand dollars, and finally culminating in conclusions of the opera bouffe style.

The Superintendent is found guilty; spanking is a very brutal punishment, and if persisted in, the prisoner should be so protected by a stout leather jacket, that no unnecessary injury be done him; that the Board of Managers should be discharged for disrespect to the Governor and over-confidence in the ability of the Superintendent; that nepotism is injurious, that more chaplains are essential, and a new institution is required.

The list of findings and recommendations is a fitting conclusion to an investigation based on press sensations, and conducted by non-experts, in an aimless and unreasonable way. There is not a jail, prison, asylum or hospital in the world that is managed to the satisfaction of all its inmates. There is always a class of critics, both in the press and professional circles, who assume far more perfect knowledge of any subject, than practical men who are giving their life work to it.

While the Elmira Reformatory will not suffer in any general way from this investigation, the thoroughly farcical character of such inquiries reflects on the intelligence of the community. Outside of all political sensationalism there is a scientific aspect to the subject that should not be overlooked.

Criminology has come into the realm of science, and belongs to the province of the physician. The Reformatory at Elmira has an eminent physician as President of the Board of Managers, and its resident physician is a recognized scientific student in this

field, whose papers and reports take rank with the work of the great leaders of penology. The Superintendent has been a practical worker in charge of convicts for over thirty years.

It is from such experience and training that we can hope for progress in this field. Institutions of any class under the control of politicians or non-experts who are not students of these subjects, never make any real advance, and are always open to all forms of abuses. Physicians everywhere should insist that penal institutions should have medical men to direct, and that the convict have the full benefit of all that science and experience has taught of the means and methods of cure.

It is a cause for great hopefulness that at least one pioneer work in the world is managed above political levels, by trained men and along lines of their best experience. This investigation has brought into greater prominence than ever, the folly of trusting to sensational stories of abuses in asylums, that come from inmates who have some purpose to accomplish, or some feeling of revenge to gratify. Also where a just suspicion exists of abuses, let the investigation be conducted by competent men who have only the truth to ascertain, truth that is above all doubt or question.

SANITO-VETERINARY INVESTIGATIONS.

Veterinary medicine and surgery is rapidly coming into prominence in many of the older States. Veterinary doctors are often highly educated, having medical diplomas from the best schools, but from choice turn their attention to animals and their diseases.

In a report to the Connecticut State Cattle Commissioners by Dr. Noah Cressy, an expert veterinary surgeon, occurs many very suggestive facts, which open up new fields of research. The struggling physician who feels the pressure of keen rivalry, should consider that a wide field of great usefulness is open in the treatment of diseases of animals; also where highly honorable and thoroughly scientific work can be pursued, with a more assured hope of reward. Dr. Cressy presents some additional evidence showing that the virus of smallpox in passing through the animal organization, undergoes some modification by which it is deprived of its malignancy. He asserts that cattle and other animals suffer from typhoid fever germs, and that some of the low exhaustive distempers which occur in animals have their origin in these germs.

Foul water supplies to animals are in many ways equally dangerous, and while all the facts are not clear, there is a strong probability that animals suffer the same as man. Also that animals suffering in this way may pollute the water supplies and be sources of infection to man.

Animals should always be cremated and never be permitted to undergo the slow process of decomposition, either on the surface or under the soil. Especially animals suffering from tuberculosis. The soil over the graves of animals dying of these diseases has been found to be alive with germs that can be communicated to others producing in favorable conditions similar diseases. Diphtheritic germs are found to be equally dangerous, and not uncommon among animals. Although not recognized, yet the evidence of their existence and danger is very clear in many cases.

The bacilli of cholera, typhoid, tuberculosis and diphtheria, are all distinguishable and preventable in both man and animals. The water supplies, the soil, the absence of cleanliness and sunlight, and bad insufficient food, are all mediums for their growth and propagation. Animals suffer the same as man from these scourges, and the same general principles of hygienic and preventive treatment apply. Tuberculosis is the most common and dangerous source of disease in animals at present. The bacilli of this is transmitted in both milk and meat, and the diagnosis is not clear except by the microscope. The animals may give but little evidence of their real condition, and no treatment has been found available.

Extermination is so far the best plan to limit the evils. A constitutional disease, called acute anthropoid edema, is mentioned, and cases are given, and some remarks are made of cattle tick pathology.

This report is a striking confirmation of many facts observed in human diseases, and the author suggests that the germicide remedies should be used by farmers in many ways, to great advantage. He very properly protests against the use of patent secret nostrums as in all cases worse than useless, and urges a more sanitary care of animals.

It is a pleasure to note the rapid advances in this field, and along lines of scientific inquiry, and the consequent disappearance of the old vociferous horse doctor, whose coarse drugs and coarser treatment was always a source of disgust to the physician. It is equally interesting to consider that these dreaded germ diseases so common in every practice, extend to animals and possibly in many unknown ways, may be sources of transmitting these germs. Clearly a very wide field of research opens up in this direction.

THE CHINAMAN VIEWED FROM THE SURGICAL STANDPOINT.

Dr. John C. Thomson, of Hong Kong, has written in the *China Medical Missionary Journal* regarding the fortitude of the Chinaman under the surgeon's knife. It often happens in China that the surgeons are called upon to operate in isolated localities, where the suitable anesthetic is wanting or where the

proper assistants are not at command. In a large proportion of minor operations, anesthetics are not exhibited. Under a variety of such circumstances the author has observed among the Celestials a degree of unflinching endurance of pain that would be scarcely possible in the more highly developed nervous constitution of the people of the West. There are many considerations among the Chinese that render the latter reluctant to surrender their surgically disordered members to the knife of the foreign surgeon, but when once their feelings of reluctance have been laid aside, the Chinaman becomes a "good patient." In explanation of some of the bedside experience DR. THOMSON has met with, the paper continues as follows:

"The fact is to be discounted that, in the case of the poorer Chinese, a prolonged course of low living and practical starvation has frequently added its results to the original trouble (while the native practitioners are doing their best or worst) before the case is submitted to the Western surgeon, and this materially affects the progress of many of our patients. Other things being equal, recovery and convalescence are very much more rapid and complete in the average Chinaman than in the average Englishman. Reasons for this difference are not entirely obvious, but the opinion may be hazarded that the simpler feeding habits of the Chinese and their equable mental constitution form, at least, some of the causes of the higher vitality of their tissues. The popularly accepted notion that the Chinaman lives on rice is very far from the truth, since even the poorest manage to add a few green vegetables and a little fish or pork to the rice, which is the staple national diet; but, taken all round, the Chinaman's food is certainly more simple, and probably more nutritious, than the food of an Englishman under analogous circumstances. His use of alcohol is also much less injurious to his tissues than is its use by a large proportion of Europeans. The native spirit, *samshoo*, is very extensively consumed, but it is invariably in minute quantities and never excepting with meals, intoxication being a thing practically unknown in China. The tranquillity of the Chinese mind is proverbial. A Chinaman is never in a hurry. Provided he be given a hope of ultimate relief, it rarely matters to him whether his stay in hospital is to extend over a week or a month, and this absence of all worry probably goes far, along with the other facts I have stated, to account for the kindly reaction of his tissues under the surgeon's knife."

MR. JONATHAN HUTCHINSON'S CLINICAL MUSEUM.

The President of the Royal College of Surgeons has shown anew his partiality for the pictorial element in teaching. He has developed from his atlases and archives an extensive museum of clinical surgery that bespeaks our admiration of its author's originality, industry and liberality. In this museum he has collected the experience of many years. It has, at first sight, the appearance of a pathologic picture gallery, but it is more than that. The upper parts of the walls are covered with pictures, while on shelves below them are the books pertaining to the same subjects, so that the building is rather a library with inserted illustrations than a simple museum. It is a kind of spread-out atlas of medical subjects. The pictures are not hung, but are allowed to stand on narrow shelves, so that they can be taken down or moved from place to place for examination or comparison. In the library subdivision of the museum there are two hundred thick scrap-books, into which are pasted the current literature, taken from journals and pamphlets, germane to the illustrations. Each of these books has its own subject, and each is independently indexed. All of MR. HUTCHINSON'S periodicals are remorselessly cut into for material suitable for these two hundred reservoirs of current information.

TO MEMBERS OF THE ASSOCIATION.

The editor of this JOURNAL recently received a polite letter in faultless type-writing as follows:

PHILADELPHIA, March 12, 1894.

My Dear Doctor:—I see by the program of the Section on Surgery of the AMERICAN MEDICAL ASSOCIATION that you are to read a paper on, ———. I hope you will let us publish this in "The ———." We will gladly furnish you reprints free of cost and if you send us the MS. in time will have it set up in galley proof so that you can read from this at the meeting.

Very sincerely at your service,

——— ———.

In response to which we have the honor to reply that the By-Laws of the ASSOCIATION forbid the publication in the Transactions of articles previously printed elsewhere.

Papers read at the meetings of the ASSOCIATION become the exclusive property of the Section, and if previously printed elsewhere can not be printed in the JOURNAL OF THE ASSOCIATION until the other articles shall have first been printed. This rule led to the exclusion from the JOURNAL of some valuable papers which the authors had printed elsewhere last year, and it is hoped that gentlemen furnishing papers will this time remember the By-Law and decline requests of the character quoted.

THE MARRIAGE CERTIFICATE OF BELGIUM A MEANS OF EDUCATION.—The following paragraph from the Paris *Herald* shows how vital statistical stationery may be made instructive:

"In Belgium it is the custom to give certificates of marriages in the form of little books, which also contain a summary of the marriage laws, and among a mass of other miscellaneous information directions for the feeding and care of infants. There are also places for entering the names and birthdays of the children of the marriage, the authorities considerately affording space for twelve such entries."

JOURNALISTIC ENTERPRISE.—We congratulate our esteemed contemporary, the *New York Medical Record*, on its cable reports of the Eleventh International Medical Congress. The first instance of the kind, we believe, attempted in American medical journalism.

Blank Applications for membership in the ASSOCIATION at the JOURNAL office.

CORRESPONDENCE.

Revision of the Code of Ethics.

To the Editor:—Members of the ASSOCIATION being privileged to discuss in the pages of the JOURNAL, the reports of the Committee on the Code of Ethics, Constitution and By-laws, the following notes of a general examination of the Committee's work are made to call attention to the moral as well as the literary character of the "revision:"

1. After divers conferences, the Committee on Revision being divided, the majority made a report at Milwaukee in 1893, in which it gave only a vain excuse for not presenting the "revised" Code, and now prints it so late as to leave little time for publication of the objections of many members who do not regard revision as necessary. Since only seven numbers of the JOURNAL can appear before the June meeting, the opportunities for criticism will necessarily be very limited. It is not likely that the Committee was sure of giving an unexceptionable revision in spirit and letter; otherwise the profession would have been invited, several months ago, to examine it in the JOURNAL. The long delay in the appearance of the "revision" is therefore significant of lack of confidence of the "revisers" in their own work, and of fear of unfavorable criticism. Nearly two years have elapsed since the appointment of the Committee to perform a duty which could have been accomplished in three months, so far as it related to the Constitution and By-laws; but this Majority Committee seems to have consumed the greater part of these two years in endeavoring to pervert the Constitution and By-laws, and in making abortive attempts to "improve, abbreviate and illuminate" that admirably accurate and exemplary, concise and lucid statement of the most exalted moral maxims known as the American Code of Medical Ethics. At last this unenviable Majority Committee has completed and published, not changes or amendments, but a monstrous metamorphosis of the entire Code!

2. Bad, in all its senses, does not seem to fully qualify the "revised" Code. Its spirit is evil, its letter is execrable, and both are superlatively absurd. It is like a parody upon the original, and a contribution to ethical and ceremonial disorder and rhetorical monstrosity presented to the profession by the iconoclastic Majority Committee as an example of its instinct for destruction, its incapacity for reconstruction and its quaint gift for the invention of rules of misconduct, as well as the outcome of the greatest efforts of which it seems capable, for "ideal" codification, classification, emendation and literary composition.

3. Countless members of the profession and of the ASSOCIATION, who have been waiting patiently to know the result of the ethical and linguistic experiments of the Majority Committee, will read the revised Code with uncommon interest, and will be likely to look upon the success of the experiments as problematical; they may perhaps be so emboldened as to assert that the "revision" is no improvement over the original Code, and say that even if it were equal to the original it would then be a work of supererogation. They will probably regard this "revision" as infinitely inferior to the original, and go so far as to suggest that the question of revision be dismissed from further examination, and that the Committee be discharged with thanks for having given such a thorough demonstration of the futility of attempting to improve the original Code. A second reading will surely confirm these views and carry the conviction that dismissal would be a wise disposal of the revision agitation.

4. Declamation, dispute and disorder were for a time irrepressible at the Detroit meeting in 1892. Advantage was taken of the ensuing confusion, on the seventh day of June, to induce a member to offer a resolution that the President appoint a committee "to whom the Code of Ethics shall be referred for such changes or amendments as they may deem it wise to recommend, if they should decide that any change is required." The Committee was duly appointed, and met, but was soon divided because its members were not unanimous as to the alleged necessity for changes in the Code. At the meeting of the ASSOCIATION in June, 1893, a majority report and a minority report were presented; the majority favoring changes, and the minority being against changes. No decisive action was taken, and it was proposed to test the vote of the affiliated State organizations.

5. Each member, or rather all the members together of the Majority Committee in assuming the *rôle* of revisers might have done serious mischief had they made only a few changes, but went much farther and blunderingly carried their excesses to the point of striving to demolish and then to remodel the lofty monument of wisdom erected by able, faithful, good and true men, and have thus greatly exceeded their instructions, which ended with, "if they should decide that any change is required," they might recommend such change. They were not authorized to transmogrify the Code. The resolution did not imply any intent, on the part of the mover or the ASSOCIATION, to change the character of the maxims or the plan and phraseology of the Code. The result of the Committee's work shows the influence if not the direction, of an enemy bent on demoralization, disorganization and destruction. In consequence of their being thus ill advised, the radical "revisers," failing to take advantage of their lore in ethics, logic and rhetoric, have substituted bad morals stated in slovenly style, for good morals stated in scholarly style.

6. For an example of the "revisers'" ethical as well as literary acumen, the proem is worth reading; it is the stamp of all that follows! The affixion to the Code of a composition, such as this proem, is an offense to the intelligence and discernment of even beginners in medicine. Besides, it adds to the number of platitudes and to the multitude of inaccuracies contained in the "revised" Code and renders it ridiculous from the beginning. To an "abbreviated" ethical code any kind of a proem would seem like a superfluity.

7. Gross and ludicrous are the blunders of the "revision" Committee, but none is so glaringly absurd as their introduction of details of preliminary and medical education, which have no place in the letter of an ethical code. The spirit of the original Code implies the highest qualifications. Physicians who uphold the American Code are expected to be scholarly gentlemen, well versed in the science and art of medicine. The excellence of the original Code is owing largely to the discrimination and learning of its framers who were thoroughly acquainted with "languages, mathematics, literature, history, philosophy and logic."

8. Have not the "revisers" separated too widely, medical etiquette from medical ethics? Should not rules of action be closely followed by rules for guidance in the ceremony of the action? It does seem convenient and proper that rules of etiquette, either stated or implied, closely follow, or even sometimes are incorporated with, ethical rules, and it does not seem rational that they be widely separated. The selection of the plan of arrangement of rules of ethics and etiquette adopted by the framers of the original Code is one of the many evidences of their sound judgment and wisdom.

9. In keeping with their crafty policy, the "revisers" imposed many obligations upon physicians, but few upon clients and, in their unwisdom, thus lead clients to believe that physicians have no rights which need be respected. How many times will it be necessary to point out that the Code was made for the information and protection of the

public as well as for physicians, and that their obligations must necessarily be reciprocal? One of the objects of the ASSOCIATION, distinctly stated in the plan of organization adopted in 1847, is "for enlightening and directing public opinion in regard to the duties, responsibilities and requirements of medical men." This object can be effected only by making the public acquainted with the ethical rules and other laws of the associated profession. To say that the "Code is not designed for patients or the public," is a confession of the grossest wilful ignorance of the principles of ethics and therefore of justice. That part of the Code which points out the reciprocal relations of clients and physicians is so clear and just that no intelligent layman who reads it will question its propriety and necessity, and all thoughtful readers will surely approve other parts of this original Code which relate to the public and the State. It is not easy to follow the vagaries of the Majority Committee both in its "revision" and its report of 1893 on the Code. In the report the Committee says that the original Code contains superfluous articles and sections of articles, and that "it would be wise to re-write this Code in phraseology so plain as to make it a practical common sense document," implying that it is senseless and does not fulfill its office. In another paragraph the Committee thinks that further inquiry should be made as to whether "alterations are warranted in view of the changes incident to the last half century," whatever this may mean. In the same report, page 692 of the JOURNAL for June 24, 1893, the Committee acknowledges that the original Code "contains the essentials for the successful conduct of a medical career, as these have been learned by the actual experience of the best members of the medical profession, from the earliest dawn of history to the day on which it was written." The frequent shiftings of this Committee's views show how unfit it is for the work it so rashly undertakes. First, the Committee thinks that the Code contains superfluous articles; second, that it is senseless and its phraseology is not plain; third, that there is a doubt whether alterations are warranted, and fourth, that the Code contains what is essential for the conduct of physicians throughout their career. It may seem strange, to those who have not studied the psychical state of the disorganizers, that after the last declaration the "revisers" persist in spoiling the Code, but to others, who know the spirit by which they are misguided, the ironical import of the declaration is plain. Toward the conclusion of its report on the Code the Committee says that it "deprecates all efforts to abolish, belittle, distort, ridicule or otherwise lessen its hold upon the profession." But despite this deprecation, the Committee gives a "revision" which, if adopted, would surely abolish the original and belittle in the extreme the ASSOCIATION adopting such a ridiculously distorted monstrosity.

10. Justice demands not only a general statement of the moral, but of the literary character of the Majority Committee's labors. Its "revision" is couched in pitifully inaccurate language which abounds in misused and misplaced words, bombastic expressions, and redundant phrases, besides uncounted inanities; while the few ideas are chimerical, and the style is inflated, inelegant, and hypnotically tedious.

11. Keen may be the wits, great the erudition, eminent the scholarship of the "revisers," but it is apparent throughout their document that they made use of none of these gifts in attempting the work of "revision." Among the glaring instances of carelessness, if not of designed perversion, is the distorted paraphrasing of some of the maxims that the Committee has seen fit to extract from the original Code.

12. Let the reader examine the files of the JOURNAL and he will learn that among the "reforms" proposed by the "revisers" and their advocates, was to be an extraordinary abbreviation of the Code. They were "determined" to give the ASSOCIATION "a clean-cut set of short rules," to make the "revision" a highly compressed statement of only "necessary maxims," and to avoid "redundancies." But notwithstanding these boastful promises, and although they "omitted ten sections of Article II, on pages 5, 6, 7 and 8, and Article II on page 20," of the original Code, the "revisers" really omitted the whole of the original, and now give a "new code" which is about four-fifths the length of the original. This "newly revised" Code is indeed well adapted to the views of the disorganizing faction by which it was inspired. Its worse than sophomoric proem, its superfluous and disingenuous rules, its profuse flux of empty words and its sorry obstipation of ideas, constitute the kind of exhibit that was expected from the would-be reformers. To bring their ridiculous propositions to a climax, the "revisers" recommend a "more accurate definition of the term, consultation!" This seems as if the definition of the "term, consultation," in the best lexicons of the English language were as unsatisfactory to them as the statement of the maxims in the original Code; rejecting the one, they reject the other for the same lack of reason. To those members who uphold the National Code, the definition of consultation, given in general and medical lexicons, is sufficiently accurate, clear and satisfactory.

13. Many and great are the difficulties sometimes met with in striving to amend even what may be improved; but how much greater and more numerous must have been those which the "revisers" constantly encountered when, in their folly they undertook the emendation of the excellent moral and ceremonial maxims contained in the original Code! The signal failure of these "revisers" was not unexpected, particularly since the publication of their pitiable endeavors to sophisticate the Constitution and By-laws, which naturally led the reader to question their fitness for the work intrusted to them. Failing in the accomplishment of the lesser task, they were not likely to succeed in the greater. It is evident they did not recognize the fact that a document, such as the original code, so pregnant with clearly and concisely stated maxims, was written for all time and is not susceptible of betterment, for it was, is, and always will be, the wisest, safest and best guide of professional conduct to all general physicians of either sex, or to specialists, however great and diversified may be the changes in medicine and its votaries.

14. Nothing in literature is more difficult than the classification of subjects, the concise statement of facts, and the right disposition of propositions. This may have been realized by the "revisers," but apparently too late to take advantage of the knowledge. Had they made use of the information obtained from their early reading of history and general ethics, they would not have lost sight of the fac that even the sages of antiquity did not find it easy to formulate moral maxims. Had they remembered that, as a general rule, each moralist of old made but few contributions, and that systems of morals are usually made up from the maxims of the many, collected, selected, edited and arranged by able classifiers, they would have rightly appreciated the value of the framers' work on the original Code, would not have had the temerity to invent absurd rules of conduct, and would have abandoned their feeble attempt at "revision." They must have known, though they seemingly ignore, with what patient intelligence the committee of 1847 labored to gather, from divers collections of good maxims the materials which were essential to its wise purposes. What a woeful lack of discernment is manifested by the disorganizers in their estimate of the grand outcome of the studies of such learned, honorable and devoted phy-

sicians as those who were members of the memorable committee of 1847, and how irrational and unjust the "revisers" are to strive to abolish the admirably written system of morals unanimously adopted by the ASSOCIATION as a condition of membership! It is more than likely that any man who, in future, may be so rash as to endeavor to change the maxims, language or arrangements of the American Code of Medical Ethics, will be the subject of general opprobrium and derision.

15. One or two more notes will terminate this general examination of the "revised" Code. It does not seem possible for any individual or committee to improve the fundamental maxim of the Code which is, "be just," and is the basis of all codes of good morals. Any deviation from this maxim which is probably as ancient as the first aggregation of men, must necessarily be bad, for it will inevitably resolve itself into—be unjust.

16. Peace is not likely to be restored in the ASSOCIATION until the disorganizers are out-voted, the transformed Code is rejected, the original Code is preserved in its integrity, ethical wrangles are discouraged, and the revision question is disposed of forever.

17. Questions such as these can not always be discussed without warmth, particularly when they are raised by disturbers of the peace of a large and respectable body of men. Made in the interest and for the welfare of the ASSOCIATION whose objects would suffer by the adoption of a perverted Constitution, and whose dignity would be offended by an immoral, ill-composed and ridiculous Code, this criticism is of necessity unsparing. The writer regrets to have been compelled to use the strong expressions which the iniquitous revision agitation seem to justify, but was prompted to do so entirely for the defense of justice against injustice, without any attempt to conceal his indignant sorrow for those who are willingly led by designing demagogues, without desire to omit any demonstrations of grievous pity for them, and without power to suppress the distressful feeling that the ASSOCIATION will see evil days if the wrong-doers prevail. In his defense of good morals the writer found it necessary to point out the blunders in both the spirit and the letter of the "revised" Code, and to bring to light the enormities of the disorganizers and the incapacity of the revisers, not as individuals, but all together as the willing agents of a turbulent and mischievous faction.

A CONSERVATIVE MEMBER.

"The Texas Medical Law."

To the Editor:—I have to thank you for calling my attention to an editorial article in the current number of the *Texas Medical Journal*, in which the Illinois State Board of Health is accused of having made "a bad break with regard to the law in Texas," in its report on medical education, prepared by the present writer. Since that report has not yet been published the Texas *Journal* must refer to an article originally published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, March 10, 1894, under the title "Legal Requirements for the Practice of Medicine in the United States." It is, therefore, proper that this notice of the Texas *Journal's* charges should appear in the same columns.

The article consisted substantially of "a *résumé* of the legal requirements for practice in each State and Territory of the United States in force Jan. 1, 1894," and in it appeared the following:

"TEXAS.—A license issued after examination by a District Board of Medical Examiners. Diplomas confer no right to practice."

This was stated to be the law in force in Texas, Jan. 1, 1894—the "legal requirement" for the practice of medicine in that State.

The *Texas Medical Journal* now asserts that this is a mistake due to ignorance, for which there can be no excuse, and adds:

"It is notorious that the Texas law requires nothing but a *diploma* (a license can be procured by virtue of it alone) and the clerk of the county court is the judge of that diploma, even though it be written in Latin and he is unable to read it."

The Texas Civil Statutes, in force on the first day of January, 1894, has the following under "Title 73—Physicians":

Article 3632. *Duty of board to examine applicants, etc.* It shall be the duty of said board [one of the District Boards of Medical Examiners authorized to be created by a preceding article] to examine thoroughly all applicants for certificates of qualification to practice medicine in any of its branches or departments, *whether such applicants are furnished with medical diplomas or not*, upon the following named subjects, to-wit: Anatomy, physiology, pathological anatomy and pathology, surgery, obstetrics and chemistry; but no preference shall be given to any school of medicine. (Const. Art. 16, § 31; Act Aug. 21, 1876; 15 Leg. p. 221.)

There is no disposition on the part of the writer to evade responsibility for any sins of omission or of commision in the report on medical education; doubtless there are such, but the *Texas Medical Journal* is not dealing with one of them in this instance. The report must be judged for what it is, not for what it might be. In the *résumé* in question it was undertaken to state what the law required of medical practitioners—not whether the law was good or bad, efficient or inoperative, well enforced or neglected.

As a matter of fact, so stated in previous reports on medical education by the Illinois Board since 1883, the Texas law is a dead letter—whether so through the supineness or indifference of the profession it is not undertaken to say. But it may not be out of place to suggest that one, if not the only, difficulty in the enforcement of the Texas medical law as it stands to-day on the statute books—requiring a thorough examination of all applicants, "whether such applicants are furnished with medical diplomas or not"—has arisen from the acts of the compilers of the Penal Code of Texas.

The penalties for practicing before having obtained and recorded a certificate or license from the proper District Board of Medical Examiners, as provided in the article above quoted, are referred, in Article 3638, to the Penal Code. In the compilation of this Code in 1879, three years after the medical practice act went into effect, there appears a chapter entitled, "Ch. 3.—Unlawful Practice of Medicine." It consists of four articles, framed, as is specifically stated, upon the medical practice act of 1876. The first article, numbered 396 in the Code numbering, prescribes the penalty for practicing without having obtained the certificate of qualification; 397 defines what constitutes a separate offense; 398 fixes the penalty for failing to file the certificate; 399 defines the classes of practitioners who are exempt from the provisions of the Act—those qualified under the Act of 1873, those in practice five years prior to Jan. 1, 1875, and midwives.

It will be seen that the important articles are 396 and 398. Article 396 is as follows:

"If any person shall practice for pay, or as a regular practitioner, medicine in this State, in any of its branches or departments, or offer or attempt to practice without first having obtained a certificate of professional qualification from some authorized board of medical examiners [or without having a diploma from some accredited medical college, chartered by the Legislature of the State, or its authority, in which the same is situated], he shall be punished by fine not less than $50 nor more than $500."

As already stated, the compilers of the Code distinctly announce that the Articles composing this chapter "are framed upon the Act of Aug. 21, 1876."

Nowhere in that Act, either directly or by implication, is there any warrant for the phrase above bracketed in the quotation of Article 396. Not only is there no warrant in that Act for recognizing as an alternative qualification "a diploma from some accredited medical college," but the Act expressly forbids such recognition. All applicants for license to practice medicine in Texas are required by the law (Article 3632) to submit to be thoroughly examined in certain specified branches, "whether such applicants are furnished with medical diplomas or not." Article 3637 categorically defines the classes which are exempt from this examination; holders of diplomas are not therein exempted. Article 3638 is cumulative on this point.

The bracketed clause is an unwarranted and mischievous interpolation. The only other important Article of the compilers (398) was held by the court (French vs. S. 14 App. 75.) to be inoperative because "irreconcilably in conflict with the Act of 1876," and a modification was made to bring them in harmony. Can it be doubted that if the question was raised, Article 396 would also be held to be "irreconcilably in conflict," not only with Article 3632 but with the expressed purpose and policy of the Act as a whole?

F. W. REILLY, M.D.
Ex-Sec'y Ill. State Board of Health.

Chicago, April 16, 1894.

From a Woman Physician.

AN OPEN LETTER TO DR. W. W. PARKER.

CONANT, LAKE CO., FLORIDA, April 6, 1894.

With the courtesy of a Virginia gentleman, and there are none more courteous, and with the fairness of age and experience, will Dr. Parker listen to my story, and hear my plea, before he utters sentence against me—a woman physician?

My first year as doctor was spent as interne in a hospital conducted by women for women. During the year there were nearly one hundred births, two-thirds of which were illegitimate. The rules of the institution admitted only unfortunate girls who were primipara. No mother was permitted to leave without her child, nor child without its mother, if both were living. There I heard their stories; shall I repeat them?

An ignorant child of fourteen a mother! What is the age of legal consent in your State? A domestic chloroformed in an institution having male physicians; a girl overpowered in a reputable physician's office. These for variety, with the host of deceived by promise of marriage.

Afterward, I was the woman physician in an institution employing one woman and several male physicians. Complaint after complaint was poured into my ears by young women patients, of insult and vile insinuation from one of the doctors. Reporting to headquarters, as I learned from my predecessor's experience, called for an occasional apology on the part of the offender and then was made the subject of merriment and rude jest. Could Dr. Parker have stood in my place and noted the obscene look and unhallowed touch in the gynecological consulting room, I believe he would have felt like striking. Babes were not in the program there. I would not insinuate farther, for my position and opinions were too thoroughly understood for me to know more. When the situation became unendurable I was told that if these things were the cause of my resigning I would not better myself, as I would find the same conditions everywhere. One of the younger physicians who seemed a Christian gentleman, told me that he had been as much shocked as I, at first, but had found that all men told their jokes and their dirty story, and he had come to tell his with the rest.

I learned afterward of his death. The immediate cause was said to have been grief over the death of his young child from blood poisoning.

Settling in a town with upwards of a dozen male practitioners, I was asked by one what I would do if appealed to by an unfortunate girl. I replied: "Murder is murder. I would as soon take a child from its crib and dash its brains out, as to destroy the youngest fetus." He replied: "There is not a doctor in town but has and will do it. You are no friend to your sex." I had no reason to contradict his first statement, but as to the last I loved woman too well to help her add murder to her other sin. If mother love and the touch of baby fingers did not save her to God and womanhood nothing could. That it could, I had proof in many cases where forsaken mothers had, in spite of all, carved for themselves and their fatherless children an honorable place in the world.

He gave me to understand that he had two abortion cases on hand and had asked with a view to my helping him out.

In a practice of thirteen years, I can remember being appealed to just twice—both times by women who had never seen me before—one a girl; one a wife with the consent of her husband. The unfortunate girl vanished as she came, plus the memory of a few earnest words. The wife was delivered of a fine child in due time.

The Doctor strikes a strong blow in a much needed direction when, in reference to "the preventive treatment against children," he says: "We are standing upon the mouth of a volcano wider than Vesuvius." And with all my woman's heart and brain I honor him for it, as I reverence and honor the God-like in man, but since as a girl I cried with my pet cat over her dead kittens—killed by a neighboring tom cat—I have never seen cause to hold the male element less responsible for the slaughter of the innocents than in the days of Herod.

Then, as now, men seem to fear the coming of Christ born of woman, to dethrone earth's sensuality and cruelty.

This is my plea: "What God hath joined together let not man put asunder," in the medical profession or elsewhere.

Let men and women join forces under the banner of Him who said: "He that is without sin among you, let him first cast a stone at her;" and also: "Neither do I condemn thee; go, and sin no more."

Let us join forces all along the line, and fight this hydra-headed monster to the death and save our nation.

O. E. WORCESTER, M.D.

For a Medical Jury.

BRACKETTVILLE, TEXAS, April 15, 1894.

To the Editor:—I hasten to the support of the suggestion of your New York contributor (in No. 13 current volume) for a revision of the statutes in a manner to provide for "a jury of medical men in all cases where medical evidence is required." I would establish at least one such jury in every county. I would arraign for trial all professors of clinical morphology, wherever they may be found at large, and all speculators on the psycho-physical relations of man, whether in the East or West. I would not try them by rule of law, but simply attempt to find out what is the matter with them. "If it is the physician's business intelligently to treat disease, then here is a fine field for future development." The jury would be required to clear and determine such questions as this: What is the mental condition of a medical man who writes about another to the JOURNAL that "his work was fruitless, not because it did not have all the elements of truth, active and professional disgrace (to quell); but because of the apathy of the profession itself." And again, "he ate largely of oatmeal which of itself is a paralyzing food." And again, "while it is right to use all

peripheral means of treating gynic diseases the central or centrifugal one of a proper diet should not be neglected." And again, "sweets are at a premium because of ethical esthetic taste. Women grown on society diet can not have full development. Hence, in my opinion, the decline of the birth rate," etc. The birth rate probably *is* diminishing under this kind of thing and the jury should look to it, taking care that the State suffer no injury. Oatmeal is not the only paralyzing food in the United States.

The psycho-physical man asks of the JOURNAL: What distinguishes the practice of our profession in treating the diseases and repairing the injuries of the *genus homo* from that of the veterinarian? Thereafter he affirms "that excessive feelings of displeasure, when protracted, produce a deficiency of innervation and quite a list of pathologic conditions have been attributed to this cause, *e.g.*, muscular debility, dyspnea, typhus, amenorrhea, chlorosis, dropsy, scurvy, tuberculosis, scirrhosis and medulla sarcoma." The placing of "medulla sarcoma" in such a list as that is probably a menace to public health. But that is a question of fact for the jury while they are engaged with the matter of drawing the line between veterinary medicine and psycho-physics. Let us have the jury. The woods are full of medical cases which otherwise will fail of proper adjudication. Medical men demand it. Legal men would hail it with joy. Ecclesiastical men would find in the operations of such a tribunal the beneficence without the terrors of the holy office.

TEXAS M.D.

Railroad Rates.

FLINT, MICH., April 9, 1894.

To the Editor:—I wish to emphasize all that Dr. Daniel Lichty, of Rockford, says in your issue of the 7th inst., in reference to railroad transportation for members of our ASSOCIATION and their families, who have in the past, and who want to attend in the future the annual meetings of the ASSOCIATION.

Joining the ASSOCIATION myself at the New Orleans meeting in 1869, and attending its annual gatherings quite regularly for several years thereafter, I found that the comparatively small rebate in railroad fares afforded members, together with the necessary drafts upon time and purse, were a serious consideration when contemplating a trip to the place of meeting, each year, and have been among the absentees for several years past.

The first meeting of the ASSOCIATION in San Francisco was held when money was plenty and the U. P. and C. P. railroads were new, and the desire to see these roads, the vast tract of diversified country through which they were made, coupled with a desire to see the metropolis of the Pacific Coast, induced many physicians to put forth great efforts to attend that meeting. But much of this is now changed, and I greatly fear that, unless a *tempting fare* is offered to us, we may remain at our posts, still, doing more than any other class of people to ameliorate the condition of mankind, and thereby rendering a service directly and indirectly which, in over forty-five years of practice, I have found railroads loth to acknowledge and appreciate.

HENRY C. FAIRBANK, M.D.

Rates to San Francisco.

PITTSBURG, PA., April 10, 1894.

To the Editor:—Considerable space has already been taken up in the JOURNAL on the subject of transportation to the ASSOCIATION meeting, and I am reluctant to presume upon you, but I feel that unless there are some concessions made on the part of the railroad authorities the attendance from the East will be very small. I interested myself some time since in getting up a party to go by special train, with the expectation of low rates, and had secured the names of fifty-six. To-day with the present prospect of increased rates I can only get twelve of this same company to say they will go. Leaving out of consideration the fact that perhaps to no other body of men are the railroad companies under greater obligations than to the medical fraternity, as a matter of business, looking at it in a mercenary manner, it would pay them to reduce the rates one-half on account of the larger number of passengers.

Can not a more determined effort be made to make the rates more satisfactory? Yours sincerely,

JOHN MILTON DUFF, M.D.

Refilled Prescriptions.

RUSTON, LA., April 11, 1894.

To the Editor:—Has a druggist the right to refill a formula for a patient without the knowledge or consent of the physician? Has the patient the right to obtain a copy of formula from the druggist without the knowledge or consent of the author? In the event the patient is going to leave the community and take up residence in some distant part, has he the right then to obtain a copy of formula, and has the druggist the right to give it with the knowledge of the prescriber? Very respectfully, R. F. H.

Endorses Dr. Cohen et alii.

DENVER, COL., March 19, 1894.

To the Editor:—There are members of the ASSOCIATION outside of Pennsylvania who indorse most cordially Dr. Cohen's recent criticism of the policy of the JOURNAL in regard to advertisements of proprietary articles. I, for one, give an unqualified assent to all that he has said, and in addition consider the editorial attitude of the *Medical News* and the *Pittsburg Medical Review* most commendable. They take the only stand that honorable adherents of our Code of Ethics can take. Very respectfully,

WM. P. MUNN, M.D.

Supports Dr. Cohen.

ALMA, MICH., March 19, 1894.

To the Editor:—Please record me as an ardent supporter of Dr. Solis-Cohen's contention against advertising quack remedies in *our* JOURNAL. Yours,

I. N. BRAINERD.

BOOK NOTICES.

The International Medical Annual and Practitioner's Index: A Work of Reference for Medical Practitioners. Edited by WM. ALEXANDER, M.D., F.R.C.S., and thirty-nine collaborators. New York: E. B. Treat. 1894. Price $2.75.

This is the American edition of the well-known *Annual* published in Bristol, England, for the last twelve years. The object of the *Annual* is to present its readers with "an exact and impartial record of the advances of medical science." In the rather successful effort to make the work truly cosmopolitan, the *Annual* has for some years past included among its contributors many American writers. For this volume we note the names of Hobart A. Hare, Wm. T. Buell, Paul F. Mundé, G. M. Hammond, H. D. Chapin, E. F. Frost, Frank W. Jackson, John Ridlon, J. Madison Taylor, Irving S. Haynes and John B. Hamilton. The *Annual* does not assume to make a report on *all* the medical literature of the preceding year, but takes note only of the "advances," or the progress made in medical knowledge of the subjects within the scope of the work.

Charaka-Samhita, Translated into English. Published by Avinash Chandra Kaviratna, Calcutta. Part VIII.

In our issue of September 23, we commented editorially on the character of this work, its great antiquity and its interest to all physicians.

This fasciculus concludes the nineteenth lesson, and gives

a translation of the twentieth, twenty-first and a part of the twenty-second. In the twenty-first lesson the physical faults are said to be: 1, excessive tallness of stature; 2, excessive shortness of stature; 3, excessive hairiness; 4, excessive baldness; 5, excessive darkness of complexion; 6, excessive whiteness of complexion; 7, excessive obesity; and 8, excessive leanness. The last two are especially damaging. The illustrious son of Atri had a very practical knowledge of his subject, for he says:

"Of the two, viz.: excessive corpulency and excessive emaciation, the latter is rather tolerable; for though the corpulent and the emaciated are equally situated, yet if disease assails both of them, it is sure to afflict the corpulent man more than the emaciated one."

For the cure of these evils, dietary regulations, exercise, and regulation of sleep are commended. This fasciculus is not less interesting than its predecessors.

A Text-Book of the Diseases of Women. By HENRY J. GARRIGUES, A.M., M.D. Containing three hundred and ten engravings and colored plates. Philadelphia: W. B. Saunders. 16mo., cl., pp. 690. 1894.

This volume, which is dedicated to Dr. Abraham Jacobi, has been written for physicians, especially that class who "have not had the advantage of hospital training, and who go to a post-graduate school in order to learn gynecology;" and also for "that larger class who would like to go to such an establishment but who find it impossible to leave their practice;" and finally, for "undergraduates studying in medical colleges."

The work is therefore intended to be one for the general practitioner and medical student, but the surgeon will find much to interest him, and he will turn to this work for hurried consultation much oftener than to some of the more elaborate "text-books" and "systems." The later and standard operations are described concisely. A chapter on sterility and its treatment concludes the volume. The illustrations are excellent, many of them original, and the book is well printed.

NECROLOGY.

CORYDON L. FORD, M.D., of Ann Arbor, Mich., April 14. Dr. Ford's death was the result of an attack of apoplexy which he suffered while on his way home from the medical building. He was in his 80th year, having been born Aug 29, 1813, in Lexington, N. Y. His diploma was obtained from Geneva Medical College, where after graduation he was appointed Demonstrator of Anatomy. In 1846 he was appointed Demonstrator of Anatomy at the Buffalo Medical College. In 1854 he was invited to the Chair of Anatomy in the Medical Department of the University of Michigan, where his best work was done. At the various medical colleges with which Dr. Ford has been connected he has delivered 109 courses of lectures. During the past quarter of a century Dr. Ford has been considered one of the best authorities in anatomy in this country. His death has cast a gloom over the University, and by it that institution has suffered an irreparable loss.——N. M. Perry, M.D., of Troupsburg, N. Y., April 3.——Hulbert Agnew, M.D., of Philadelphia, April 6, aged 32. He was a cousin of the late Prof. D. Hayes Agnew.——Chas. Cawood, M.D., of Knoxville, Tenn., April 7, aged 32.——P. Harold Hayes, M.D., of Buffalo, N.Y., April 9. He was born in Bristol, Ontario County, New York, in 1823, and he was graduated from the Jefferson Medical College at Philadelphia in 1848. He practiced in Binghamton for many years. He went to Buffalo in 1892 where he has since resided.——Carl F. Eudden, of Joliet, Ill., April 9, aged 62.——James M. Hoyt, M.D., of Walled Lake, Minn., April 10.——John E. Wilcox, M.D., of Hoosic Falls, N. Y., April 10.——Thornton H. Flemming, M.D., of Canton, Ill., April 11, aged 85.——Alex. C. McChesney, M.D., of Chicago, April 14, at Nice, France, aged 53.——Chas. W. Davis, M.D., of Chautauqua, N.Y., April 9.

ASSOCIATION NEWS.

The Association Train will leave Chicago Monday, May 28, via Santa Fe R. R., Rio Grande Western, and Southern Pacific, for San Francisco via Denver, Colorado Springs, Leadville, Manitou, Glenwood Springs, Salt Lake, Ogden, Truckee and Sacramento. Returning, after the meeting, the train will pass through Sacramento and Northern California to Portland, thence east by way of the Northern Pacific R. R. to St. Paul. C. M. & St.P. R. St. Paul to Chicago. A stop over at Yellowstone National Park for those who desire it has been arranged, and it has been understood that at several places on the journey there will be short stops. President Hibberd's party in a special car join the train at Chicago, and the St. Louis party are expected to join at Kansas City. From all points east and south, concentrating on this train should be effected at Chicago and St. Louis. For all information relating to this train, fares, etc., address J. M. Connell, 212 Clark st., Chicago, or any agent of Santa Fe line in other cities. Rates promised are the lowest excursion rates at time of departure.

This is the only route on which arrangements have been perfected by the Trustees.

Section on Practice of Medicine of the American Medical Association.—The officers of the Section on Practice of Medicine for the meeting of the ASSOCIATION in San Francisco will be glad to receive the titles of any papers which gentlemen desire to read at that meeting.

A large number of papers have already been promised for the meeting by members of the profession on the Pacific slope, and it is earnestly desired that an equal number of contributions should come from Eastern portions of the country.

H. A. HARE, Chairman,
222 S. Fifteenth Street, Philadelphia.
W. H. WASHBURN, Secretary,
803 Grand Avenue, Milwaukee, Wis.

Section on Neurology and Medical Jurisprudence.—Additional papers in this Section.

"A Study of the Ocular Symptoms of Friedrich's Disease," by Chas. A. Oliver, Philadelphia, Pa.

"Two Cases of Brain Tumor," by Anne Burnet, Wausaw, Wis.

"Dyspepsia, a Nervous Disease," by Chas. H. Hughes, St. Louis, Mo.

"The Forensic Aspect of Sadism with a Case," by W. L. Baum, Chicago, Ill.

"Lesions of the Sensory Portion of the Internal Capsule," by H. G. Brainerd, Los Angeles, Cal.

"Acute Mania," by John W. Givens, Blackfoot, Idaho.

A paper by Sarah Hackett Stevenson, Chicago, Ill.

"The Post Active Treatment of Narcotic Habitués," by J. B. Mattison, Brooklyn, N. Y.

FRANK P. NORBURY, M.D., Secretary.

Section on Obstetrics and Diseases of Women. Preliminary Program.—Address of the Chairman of the Section.

"Treatment of Fibroid Tumors of the Uterus," by Franklin H. Martin, M.D., Chicago, Ill.

"Recto-Vaginal Fistula, its Etiology and Surgical Treatment," by Augustus P. Clarke, M.D., Cambridge, Mass.

"Suspension of the Uterus in Extreme Anterior Displacements," by H. R. Holmes, M.D., Portland, Oregon.

"Placenta Previa," by Llewellyn Eliot, M.D., Washington, D. C.

"The Pedicle in Abdominal Hysterectomy," by A. H. Cordier, M.D., Kansas City, Mo.

"The Influence of Gestation upon Chronic Diseases of the Kidney," by T. Ridgeway Barker, M.D., Philadelphia, Pa.

"Tetanus Puerperum," by Allison Maxwell, A.M., M.D., Indianapolis, Ind.

"A Case of Didelphic Uterus, Unilateral Hematrometria, Hemasalpinx and Hematocolpos," by X. O. Werder, M.D., Pittsburg, Pa.

"Removal of Fibroid Tumors through the Abdomen," by E. E. Montgomery, M.D., Philadelphia, Pa.

"Some of the Uses of Strychnia in Obstetric Practice," by John Milton Duff, M.D., Pittsburg, Pa.

The American Medical Association.—San Francisco is justly proud of her harbor, and since it is probable that the delegates and vistors to the AMERICAN MEDICAL ASSOCIATION will be given an excursion upon its waters, it will be of interest to many to learn something of its beauties. We will imagine we are upon one of the large excursion steamers and are starting upon our day's outing. The usual rush through the gates for the boat at the last moment is over, the inevitable half-minute-too-late man has been left behind and is sorrowfully wending his way back to his hotel, regretting the good time and the free lunch that have departed from him, and the boat with her load of guests has drawn out of the slip into the green bay, and with prow pointing northward is gathering headway for the journey.

It is not yet time for the usual afternoon breeze. The sun is shining brightly through a sky that will rival in depth of color and purity of tone the more famous skies of the old world; to the right the green slopes of the Coast range of mountains, looking blue in the distance, rise gradually from the shore until having reached the sky the vision is interrupted and the beyond is left to the imagination, while to the left the receding city with its undulating outline is growing gradually less distinct, and its rumble and roar is being replaced by the sound of churning waters from the wheels and the hum of happy voices. On the upper deck and forward is a good position from which to note points of interest.

To the eastward is Goat Island. This was formerly called Yerba Buena. Its present name doubtless arose from the fact that during the early forties it was used as a goat pasture. At present it is one of Uncle Sam's possessions. The Oakland and San Francisco ferry boats run just south of this Island and many tragedies are said to have occurred near its shores. Occasionally one reads in the papers of "the demon of Goat Island." If any are curious as to the legend, inquire of some native son or daughter and be enlightened. Alcatraz Island lies to the north. It belongs to the United States and is used as a fort and military prison. It seems too bad to appropriate so bright a spot to such use as the latter, but government and sentiment are not usually very closely related. Over to the left on the main shore is Fort Mason—commonly called Black Point, while further westward is Fort Point, backed by high bluffs that have recently been strongly fortified. The dirt mounds on their summits, covered with waving wild oats, look innocent enough, but hidden in their depths are engines of destruction so placed as to fully command the entrance to the harbor.

About equi-distant between the forts, the Pacific Coast headquarters for the Army is located. The neat quarters of the officers are almost covered by trailing vines and climbing roses that partly obscure their outlines. Soon after we have passed Alcatraz all eyes will be turned to the westward to drink in the view presented. In the center, like a mighty river, lies the Golden Gate; beyond is the limitless expanse of the Pacific Ocean; to the north the Mission Hills rise abruptly from the shore to culminate a few miles away in Mt. Tamalpais, while on the south the gentle slopes of the Presidio, dotted with evergreen trees, lead backward toward the city.

Our boat moves on, and new scenes shut this one out, but the impression made will long remain.

With a long sweep in toward Saucelito, nestling among the trees at the mountain's base, we have turned to the east, and are steaming along past Belvidere and Tiburn. Angel Island, which we are now approaching, is of some interest to this company of sightseers; here is located the quarantine station, and perhaps we will be given an opportunity to land and make inspection, but probably our boat will be headed for Raccoon Straits through which we will pass and cruise about in the broad bay above.

Here we will have an opportunity to point out Red Rock, Two Brothers, Hen and Chickens, McNear's Landing—the most delightful picnic place on the bay—the Chinese village of shrimp fishers and other places with which we may be familiar.

Our objective point is Mare Island. This is the Government Naval repair and supply station for the Pacific Coast. Through the kindness of Surgeon-General Tryon and Surgeon Wood, of Mare Island, we will be permitted to land and inspect all that is of interest. Many famous old vessels have been refitted here, and perhaps some are lying in the offing now. After having spent an hour at this place we will board our steamer and start on our return.

There yet remains much to be seen, but the sun is gliding over toward the west, and we must hasten or it may be dark before the circuit is complete. We steam back past Vallejo, Port Costa, with its immense grain depots, Berkeley, our State University town, Oakland, the City of Churches, and Alameda the charming residence suburb. It will be of interest, as we cross the bay on our way home, to notice the Spreckles Sugar Refinery, the Union Iron Works, where have been constructed such war vessels as the *Charleston* and *San Francisco*, and the Pacific Mail Steamship docks, where the Chinese coolies were at one time landed by the thousands. The sun is dipping into the western waters, and as our boat glides into the slip, the twinkling lights of the city invite us back to our accustomed duties, refreshed and invigorated by our day's outing, and ready for whatever of entertainment may yet be in store.

R. L. RIGDON, Secretary.

SOCIETY NEWS.

Eleventh International Medical Congress.

To the Editor:—I send you a list of the delegates from America to the Congress at Rome, by request of Dr. T. H. Manley. Should you wish to describe the Congress itself, simply add chaos to confusion, with plenty of Italians who are placed in the halls to impart information; these never answer a question till the "tip" appears. The Latin races will not listen to the English tongue. We are the envy of the English Section because we have an executive committee who placed our members where they belong and have seen that the American papers were read. The Italian is indolent and apparently lacking in executive ability. One little incident will show you something of this: The managers published maps of the buildings—which are very large—and when the mistakes, which are frequent and gross in these plans, were pointed out, there was simply a shrug and a reply that everything was very clear.

One of the newspapers had a correspondent here for thirty days before the opening, and he has not found any Italian secretary or manager who had any conception or knowledge of any fixed plan. The truth is, there were no plans. Three time tables would give three different times of meetings. But the Americans have been on hand all the time. Trusting you can use the list, I remain very truly yours,

DOUGLAS H. STEWART, M.D., New York City.

The following is a list of American physicians at the Eleventh International Congress at Rome:

Austin, H. W., Washington, U. S. Marines.
Ainley, Daniel, Halifax.
Belcher, Sarah., New York.
Baldwin, A. A., New York.
Brown, Adelaide, San Francisco.
*Bleyer, J. Mount, New York.
Borden, M., New York.
Bohn, H., Philadelphia.
Bradfield, G. M., Philadelphia.
*Bernays, A. C., St. Louis.
Blake, C. J., Boston.
Brown, A. A., Montreal.
Barnes, J. Steele, ——.
Corlett, Wm. T., Ohio.
*Cannadays, C., Virginia.
Cohen, E., Minneapolis.
Cornu, Felix, Montreal.
Carlucci, Francesco, New York.
Cunningham, John, Connecticut.
Caldwell, M., Wisconsin.
Campbell, H. A., Syracuse.
Cannon, J., Iowa.
Dickey, J. L., Virginia.
Dubois, Frank L., Washington, U.S. Navy.
Dick, Alfred, Buffalo.
*Davis, J. C., ——.
Engleman, J., St. Louis.
Field, H. A., Brooklyn.
*Frank, Jacob, Chicago.
Furbeck, Peter R., Indiana.
Lowman, John H., Cleveland.
Lynch, John B., New York.
Landesburg, Max, Philadelphia.
*Ljuk, John Eph., Indiana.
*Moise, Bettinidi, New York.
Manley, Thos. H., New York.
Miller, A. M., Pennsylvania.
Mansen, Earnest, Illinois.
Mallory, F. B., Boston.
*Moore, James, Minnesota.
Miller, Wymond, Montana.
*Murphy, J. B., Chicago.
Nuttall, Geo. H. F., Baltimore, Johns Hopkins College.
Owen, A., Indiana.
Pyne, J. H., ——.
Parker, Carter A., Connecticut.
Preble, Robert, Chicago.
Price, John P., Pennsylvania.
Patton, Stewart, West Virginia.
Pellon, P. C., Minnesota.
Rawlins, J., Florida.
Ring, Frank, St. Louis.
Richardsou, J. J., West Virginia.
Rice, W. B., Boston.
Sochatzy, M., New York.
Sarton, H., California.
Simpson, John D., Minneapolis.
Sneve, Haldor, Minneapolis.
Stoddard, Chas., Chicago.
*Smith, Joseph R., New York, U. S. Army.

Flour, Thos., Baltimore.
Griscom, M., Philadelphia.
Goldstein, M. A., St. Louis.
Granger, D., ——.
Gay, Geo. W., Boston.
Girard, A. C., Chicago, U. S. Army.
Hayden, S. B., Chicago.
Hoech, K., Minneapolis.
*Hewettson, J., Baltimore.
*Irwin, B. J. D., Washington, U. S. Army.
Jeffries, Horace, Boston.
*Jacobi, A., New York.
Joseph, L., Cincinnati.
*Judson, Daland, Philadelphia.
Keaney, Francis, Boston.
Koser, S. S., Pennsylvania.
Kistler, O. F., Peru.
Kreider, Geo. N., Illinois.
Kee, A. B., California.
Kitchen, E. E., Canada.
*Kay, T. W., Pennsylvania.
Keller, Thos. F., Ohio.
Spring, C. B., California.
Steadman, Thos. L., New York.
Stannard, Frank, Chicago.
Sumner, C. J., Buffalo.
Sell, Edward, New York.
Strong, Walter, Philadelphia.
Simmons, G. C., Sacramento.
Siegfried, Chas., Washington, U. S. Navy.
*Stewart, D. H., New York.
Shepherd, E. J., Montreal.
Senouse, D. W., Iowa.
Tobin, Wm., Halifax.
*Tyner, T. J., Texas.
Torrison, Geo., Kentucky.
Tatelbee, J. B., Chicago.
*Turck, J. F. B., Chicago.
Von Klein, Carl H., Cleveland.
Wolff, Jacob, Chicago.
Warner, W. R., Philadelphia.
Williams, H. A., Buffalo.
Wardsworth, W. S., Philadelphia.

Those marked thus * read papers.

Dr. A. Jacobi, of New York, President; Dr. Wm. Tobin, of Halifax, Secretary for Canada; Dr. Douglas H. Stewart, of New York, Secretary for United States.

Executive Committee: Dr. Thos. H. Manley, New York, Chairman; Dr. G. C. Simmons, Sacramento; Dr. J. Engleman, St. Louis.

DOUGLAS H. STEWART, M.D., Secretary.

Pennsylvania State Medical Society.—The following is a list of the addresses and papers which have been appointed to be read or have been secured by the Committee on Scientific Business for the forty-fourth annual meeting of the Pennsylvania State Medical Society, to be held in Philadelphia, May 15 to 18, inclusive:

Annual Addresses: "Medicine," Dr. W. S. Foster, Pittsburg; "Surgery," Dr. G. D. Nutt, Williamsport; "Obstetrics," Dr. E. E. Montgomery, Philadelphia; "Mental Disorders," Dr. T. M. T. McKennan, Pittsburg; "Hygiene," Dr. J. H. Wilson, Beaver; "Ophthalmology," Dr. Geo. E. de Schweinitz, Philadelphia.

Medical Papers: "Hydrophobia," Dr. Charles W. Dulles; "Dietetics," Dr. H. F. Slifer; "Unique Cases in Practice," Dr. John M. Batten; "Therapeutics of Whooping Cough," Dr. W. C. Hollopeter; "Colorado Climate for Consumptives," Dr. William P. Munn (Denver, Col.); "Subcutaneous Emphysema," Dr. R. G. Curtin; "Diarrheal Diseases," Dr. John Aulde; "Acroparesthesia," Dr. Wharton Sinkler; "Typhoid Fever," Dr. Adolph Koenig; "Tapping of Abdominal Effusions as a Therapeutic Measure," Dr. W. E. Hughes.

Surgical: "Radical Cure for Hernia," Dr. E. Laplace; "Modification of Pirogoff's Amputation," Dr. F. Le Moyne; "Surgery of Gall-bladder," Dr. X. O. Werder; "Section of Tendo-Achillis in Fractures and Dislocations," Dr. T. S. K. Morton; "Appendicitis," Dr. John B. Deaver; "Amputation Near the Ankle," Dr. G. G. Davis; "Stricture of the Urethra," Dr. O. Horwitz; "Treatment of Fractures at the Lower End of the Humerus," Dr. Charles W. Dulles; "Acute Intestinal Obstruction," Dr. J. M. Barton; "Ocular Exploration of the Bladder and Urethra," Dr. Edward Martin; "Thyroidectomy," Dr. John B. Roberts.

Obstetrical and Gynecological: "Puerperal Eclampsia," Dr. J. C. McAllister; "Uterine Fibroids," Dr. Charles P. Noble; "Acute Endometritis," Dr. J. M. Baldy; "Studies in Obstetrics and Gynecology," Dr. Anna M. Fullerton; "Symphyseotomy and other Procedures," Dr. Horace Fox; "Cholecystoenterostomy," Dr. B. F. Baer.

Eye and Ear: "Corneal Ulcers," Dr. S. L. Ziegler; "Diseases of the Ear," Dr. S. MacCuen Smith; "Surgical Treatment of Internal Strabismus," Dr. H. F. Hansell; "Eye Strain," Dr. Charles H. Thomas; "Tympanic Vertigo," Dr. Charles Burnett; "Massage Methods in the Relief of Tinnitus," Dr. Louis F. Lautenbach; "Capsulotomy after Removal of Cataract," L. Webster Fox.

Nose and Throat: "Intra-nasal Surgery," Dr. W. H. Daly; "Naso-pharyngeal Catarrh," Dr. William R. Hoch.

Skin: "Clinical Observations," Dr. J. V. Shoemaker; "Epithelioma of the Skin," Dr. M. B. Hartzell.

Tuberculosis: Arrangements have been made for a discussion on "Medical and Surgical Tuberculosis," and papers will be read on "Medical Tuberculosis" as follows: "Curability and Treatment," Dr. S. S. Cohen; "Psychical Phases," Dr. J. M. Taylor; "Contagiousness," Dr. A. M. Cooper; "Prophylaxis," Dr. L. F. Flick; "Medical Tuberculosis," Dr. Hugh Hamilton; "Strychnin Treatment of Pulmonary Consumption," Dr. T. J. Mays; "Case of Tubercular Meningitis," Dr. D. Longaker.

The following members of the Society have announced their wish to take part in the discussion on "Medical Tuberculosis:" Drs. J. H. Musser, W. B. Ulrich, J. C. Wilson, J. S. Cohen, W. E. Hughes.

The following papers on "Surgical Tuberculosis" will be read: "Tuberculosis of the Fallopian Tubes," Dr. C. B. Penrose; "Treatment of Tubercular Caries of the Spine," Dr. H. A. Wilson; "Case of Tuberculosis of the Knee-joint," Dr. E. B. Haworth.

The following members will take part in the discussion on "Surgical Tuberculosis:" Drs. J. B. Roberts, DeF. Willard, G. G. Davis, J. K. Young, J. M. Barton, B. F. Baer.

"Tubercular Manifestations of the Skin" will be discussed by Dr. H. W. Stelwagon.

Besides these the following papers on general subjects are announced: "Christian Science and the Medical Profession," Dr. H. H. Longsdorff; "Should the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION be used to Promote Quackery," Dr. S. S. Cohen; "Reasons for the Revision of the Code of Ethics," Dr. E. Jackson; "Cramming in Medical Schools," Dr. O. H. Allis.

The Committee has obtained the consent of Dr. Benjamin Sharp, of the Academy of Natural Sciences, to exhibit to the Society his beautiful series of lantern pictures of the Leper Settlement at Molokai, Sandwich Islands, and of lepers in various stages of the disease.

The Tennessee State Medical Society.—The Tennessee State Medical Society held its annual election of officers at Memphis April 11, which resulted as follows: President, Dr. F. L. Sim, Memphis; Vice-President for West Tennessee, Dr. G. B. Gillespie, Covington; Vice-President for Middle Tennessee, Dr. G. C. Savage, Nashville; Vice-President for East Tennessee, Dr. D. E. Shields, Morristown; Secretary, Dr. S. S. Crockett, Nashville; Treasurer, Dr. Ambrose Morrison, Nashville. Dr. Dulaney, of Bristol, is the retiring President, and as such becomes a member of the Judicial Council.

Morgan County (Illinois) Medical Society.—The regular meeting of this Society was held Thursday, April 12, in the Society Hall, Jacksonville. S. B. M. Griffith, of Springfield, Ill., member of the State Board of Health, read a very thorough and scientific paper on "The Salient Points in Preventive Medicine." A free discussion followed. A committee consisting of Drs. F. P. Norbury, G. V. Black and H. F. Carriel was appointed to prepare suitable resolutions relative to the death of Dr. Jno. H. Rauch, late Secretary of the State Board of Health.

The Tri-State Medical Society (Illinois, Iowa and Missouri) will hold its next meeting at Jacksonville, Ill. This Society has grown rapidly into one of the foremost in the West, and promises to be a vigorous, working Society. Its meeting in Kansas City April 3, 4 and 5 was a great success, both in attendance and work done. The physicians of Kansas City were especially hospitable and entertained the visiting members royally.

The Dubois Medical Society held its annual meeting at Jasper, Ind., April 3. The following officers were elected for the ensuing year: B. B. Brunnock, of Jasper, President, and C. R. Ramsbrok, of Huntingsburg, Secretary and Treasurer. Dr. W. R. McMahan was appointed a delegate to the AMERICAN MEDICAL ASSOCIATION.

MISCELLANY.

At the fifteenth annual commencement of the Arkansas Industrial University, April 5, thirteen graduates received the degree of M.D.

To be Mayor of St. Paul.—Dr. Chas. A. Wheaton, of St. Paul, has consented to accept the nomination for Mayor by the Republicans of that city.

Surgeon-General Fulton.—Dr. John F. Fulton was yesterday commissioned Surgeon-General of the Minnesota National Guard to succeed the late Dr. Murphy, April 6.

New Medical Journal.—We have received the initial number

of a new medical monthly published at Rochester, N. Y., and edited by H. Bronson Gee, M.D. It presents a neat appearance and is filled with interesting matter.

A Queen's Thoughts Concerning the Medical Art.—In her little book, called "Pensees," the Queen of Roumania offers the following comparisons between theology and physic:

"It is better to have a physician for a confessor than a priest. You tell the priest that you detest mankind; he answers: 'You are not a Christian.' The physician gives you a dose of rhubarb, and you love your fellow-being. You tell the priest that you are tired of living. He answers: 'Suicide is a crime.' The physician gives you a stimulant, and immediately you feel life supportable."

Smallpox in Illinois.—In Illinois, outside the city of Chicago, there have been eighteen places infected during the period between January 1 and April 18, 1894, with a total of sixty cases and ten deaths. At the latter date there were eight infection centers with eleven cases remaining. In fifteen places the outbreak was limited to the original case or cases; only in the poorhouses of Madison, Warren and Grundy Counties and at Harvey in Cook County, did the disease spread beyond the houses first infected. In all places the rules and regulations of the State Board of Health were promptly enforced and the record reflects credit upon the Board.

In Chicago, up to noon of the 17th, 226 cases were reported for the month of April and the spread of the disease continued unabated. The situation is grave beyond precedent. The pesthouse is overcrowded and newly-discovered cases are retained at their homes until places are made for them by death or recovery. Smallpox corpses awaiting burial are almost daily found by the inspectors, this being the first intimation of the existence of the disease. An inspector of the Tenth Ward reports finding two corpses on the 14th and three on the 15th. Work has been at last begun on an extension of the pesthouse, for which an appropriation of $25,000 has been available for some time. The County Hospital has been again quarantined, there being on the 16th two cases of smallpox and six "suspects" in the building refused admission to the pesthouse until some of its inmates "die or recover." An emergency meeting of the State Board of Health was held in the city on the afternoon of the 17th, at which the Mayor and Health Commissioner were present. Beyond appointing a committee of the Board to inquire of the Governor what funds of the State were available to assist the city in its efforts to suppress the disease no action was taken—the city authorities, while confessedly unable to cope with the situation, refusing to make a direct appeal to the State Board for assistance.

An "East Side" Census in New York City.—The Church Temperance Society has recently made a social census of forty-seven city blocks, the approximate center of which is the intersection of Chrystie and Stanton Streets. The census was taken by eight ladies, who had already had experience in this field. The census-takers were, as a rule, courteously received in their districts, and were enabled to report more or less fully on 90 per cent. of their lists of questions. The population of the section is, in round numbers, 55,000; of which 25,000 souls are of American birth, the remainder being Russian, Polish or German; the real excess of alien Jews over Americans is stated at 5,517. The number of dwellings is 529, of tenements 1,775. Of these latter 180 are of the baneful variety known as "rear tenements." The proportion of the people who dwell in tenements is probably not below 90 per cent. One subdivision of the district, containmg 40,000 souls, has 192 saloons, or one saloon to every 200 of the population, inclusive of children, women and men. In another smaller subsection, there is one saloon to every seventy-seven persons. One of the objective points of this movement will be to secure a reduction in the number of saloons, so that there shall be not more than one of these institutions to every 500 of the population.

Regarding the tenement system, the following observations are made in the report:

"The New York tenement house is a necessity begotten of its conditions and surroundings. It is not necessarily bad. It may be built with due regard for light and fresh air. The evils, in our opinion, are the rear tenements; back to back tenements, known as double-deckers; front tenements, badly constructed as to light, drainage or both.

"In all reforms requiring large powers coupled with large expenditures, naturally the municipality is intrusted with the power because it can obtain the necessary capital at the cheapest rate. The present condition of the city, because of the baneful influence of Tammany Hall, precludes the possibility of large purchase, large clearing and the erection of sanitary dwellings thereon. The defeat of Tammany Hall and the installation of an honest, reputable and representative city government is a condition precedent to any real, full and effective dealing with the tenement, rear, front, and back to back."

Hospital Notes.

THE NEW city hospital at Dallas, Texas, will be ready for occupancy May 1, and will be furnished with "all modern improvements."

THE ST. LAWRENCE STATE HOSPITAL, at Ogdensburg, N. Y., will receive over one hundred thousand dollars this year for the following purposes: Grading grounds, $20,000; cold storage, $4,000; two cottages for disturbed patients, $24,740; cottage for convalescents, $44,168; propagating house, $3,150; vegetable and sub-cellar, $4,000; steam boiler, $2,500; piping and motors for laundry, $935.

THE PUBLIC SERVICE.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from April 7, 1894, to April 13, 1894.

Capt. OGDEN RAFFERTY, Asst. Surgeon, is hereby granted leave of absence for one month, with permission to apply for an extension until the 20th of May next.

The following named officers of the Medical Department will report in person, for temporary duty until further orders, as follows: First Lieut. CHARLES WOODSON, Asst. Surgeon, to the commanding officer, Angel Island, Cal.; First Lieut. CHARLES E. B. FLAGG, Asst. Surgeon, to the commanding officer, Alcatraz Island, Cal.

LETTERS RECEIVED.

(**A**) Armitage, J. E., (2) National Home, Wis.
(**B**) Bates & Morse Adv. Agency, New York, N. Y.; Bell, Guido, (2) Indianapolis, Ind.; Brooke, G. W., Ellsworth, Ohio.
(**C**) Cochran, Jerome, Montgomery, Ala.; Comegys, C. G., Cincinnati, Ohio; Collyer, Samuel, Tacoma, Wash.
(**E**) Eastman, Joseph, Indianapolis, Ind.; Elder, Samuel & Co., Baltimore, Md.
(**F**) Farrington, J. M., Binghamton, N. Y.
(**G**) Gould, Frank J., Chicago, Ill.; Grafton, J. J., Chicago, Ill.; Gallup, Benj. E., Chicago, Ill.
(**H**) Hommel, A. L., (2) Philadelphia, Pa.; Hargens, C.W., Hot Springs, S. D.; Hudspeth, S. W., Little Rock, Ark.
(**I**) Imperial Granum Co., New Haven, Conn.
(**K**) Kugler, A. S., Guntur, India.; Kingsbury, A. D., Boston, Mass.; Kerrick, H. C., Brocton, Ill.
(**L**) Loar, L. T., Dingess, W. Va.; Link, J. A., Atlanta, Ga.
(**M**) Montgomery, E. E., Philadelphia, Pa.; Mellier Drug Co., St. Louis, Mo.; Maxfield, Geo. A., Holyoke, Mass.; Middleton, W. D., Davenport, Iowa; Moore's Newspaper Subscription Agency, Brockport, N. Y.; Medical and Surgical Reporter, Philadelphia, Pa.; Mattison, J. B., Brooklyn, N. Y.; McBride, M. A., Leesville, Texas; Manchester, D. B., Beverly, Mass.; McRae, Floyd W., Atlanta, Ga.; McMurtry, L. S., Louisville, Ky.; Mayo, W. J., Rochester, Minn.
(**O**) Orme, H. S., Los Angeles, Cal.
(**P**) Paine, O. D., Youngstown, Ohio; Parkinson, J. H., Sacramento, Cal.; Plummer, R. H., San Francisco, Cal.; Parke, Davis & Co., Detroit, Mich.; Perry, Kirke, Troupsburg, N. Y.; Porter, Miles F., Fort Wayne, Ind.; Potter, W. W., Spokane, Wash.
(**R**) Renz & Henry, Pharmacal Co., Louisville, Ky.; Rebekah Hospital, St. Louis, Mo.; Reed, W. F., Ottawa, Ohio.
(**S**) Stearns, Frederick & Co., Detroit, Mich.; Stolze, Gustav, (2) Wausau, Wis.; Sanderson, A. J., St. Helena, Cal.; Stucky, T. Hunt, Louisville, Ky.
(**T**) Treat, E. B., New York, N. Y.; The Mercer Chemical Co., Omaha, Neb.; Tuttle, A. H., Cambridge, Mass.
(**W**) Wanzer, C. M., Zanesville, Ohio; Woodbridge, J. E., Youngstown, Ohio; Washburn, W. H., Milwaukee, Wis.
(**Y**) Ybarra, A. M. Fernandez, New York, N. Y.

PAMPHLETS RECEIVED

Later Data on Gold in Therapy; with the Original Paper. By E. A. Wood, M.D.

The Cause and Cure of Malignancy. By Wm. Thornton, M.D.

Preliminary Prospectus, American Union Life Insurance Company, New York.

Transactions of the American Dermatological Association. Seventeenth Annual Meeting, Milwaukee, Wis.

Some Considerations bearing upon Practice with Dynamic Antagonists in cases of Drug Poisoning. By Chas. S. Mack, M.D.

Remarks upon Appendicitis; Based upon a Personal Experience of 181 cases. By Maurice H. Richardson, M.D.

Circulars Nos. 43 and 44 State Board of Health and Vital Statistics, Pennsylvania, 1894.

Announcement Fourth Annual Meeting Association Military Surgeons U. S., Washington, D. C., May 1-3, 1894.

Annual Report St. Mary's Hospital, Rochester, Minn. 1893.